OE ENERGY MARKET SNAPSHOT

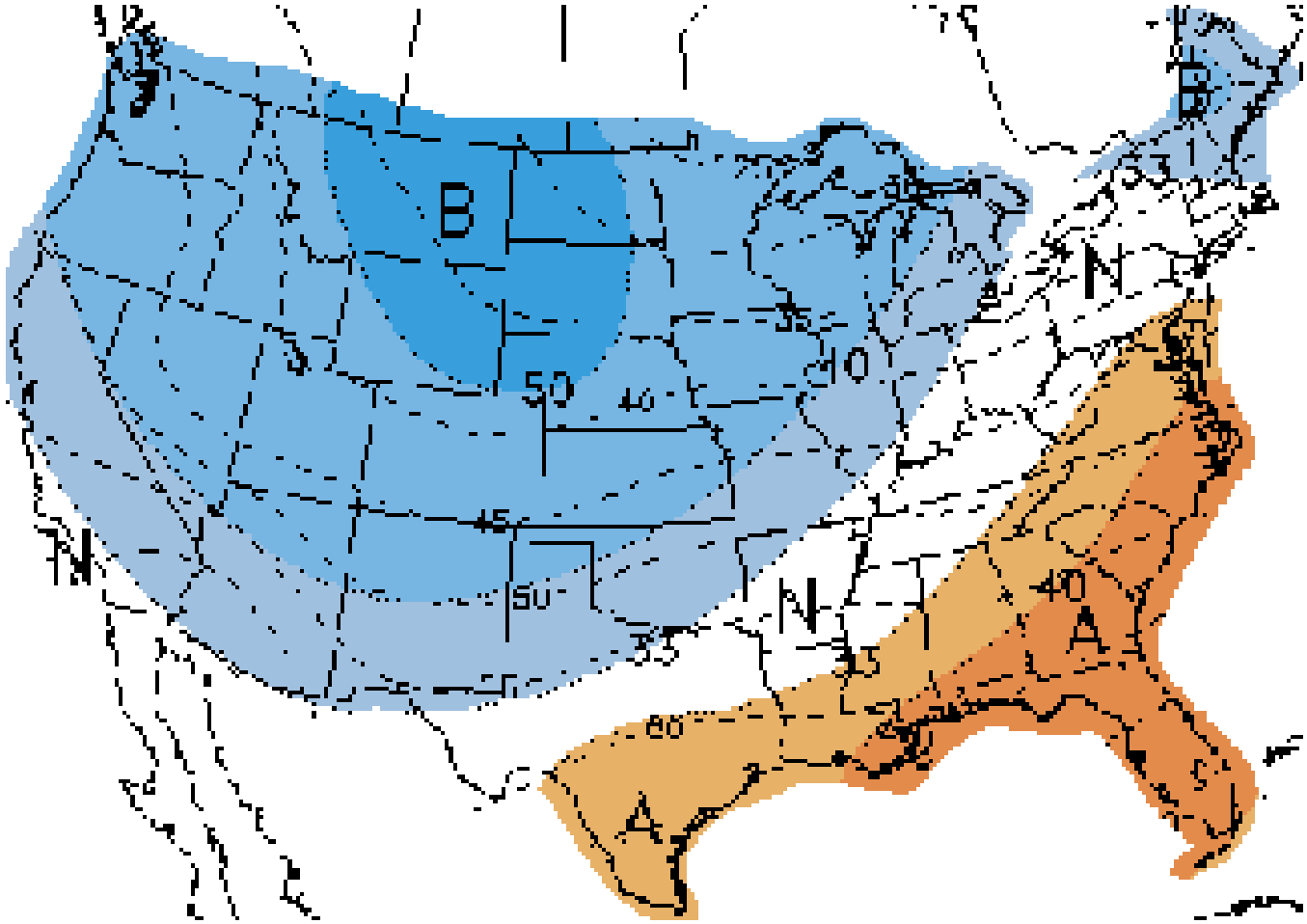
Midwest States Version – February 2008 Data

- **Market Fundamentals**
- **Prices and Market Analysis**

Office of Enforcement
Federal Energy Regulatory Commission
March 2008

Market Fundamentals

NOAA's 8 to 14 Day Temperature Forecast
Made March 6, Valid for March 14-20, 2008



Note: "A" areas are above normal and "B" areas are below normal. Normal is based on the last 30 years of data.

Source: NOAA

Updated March 7, 2008

3012

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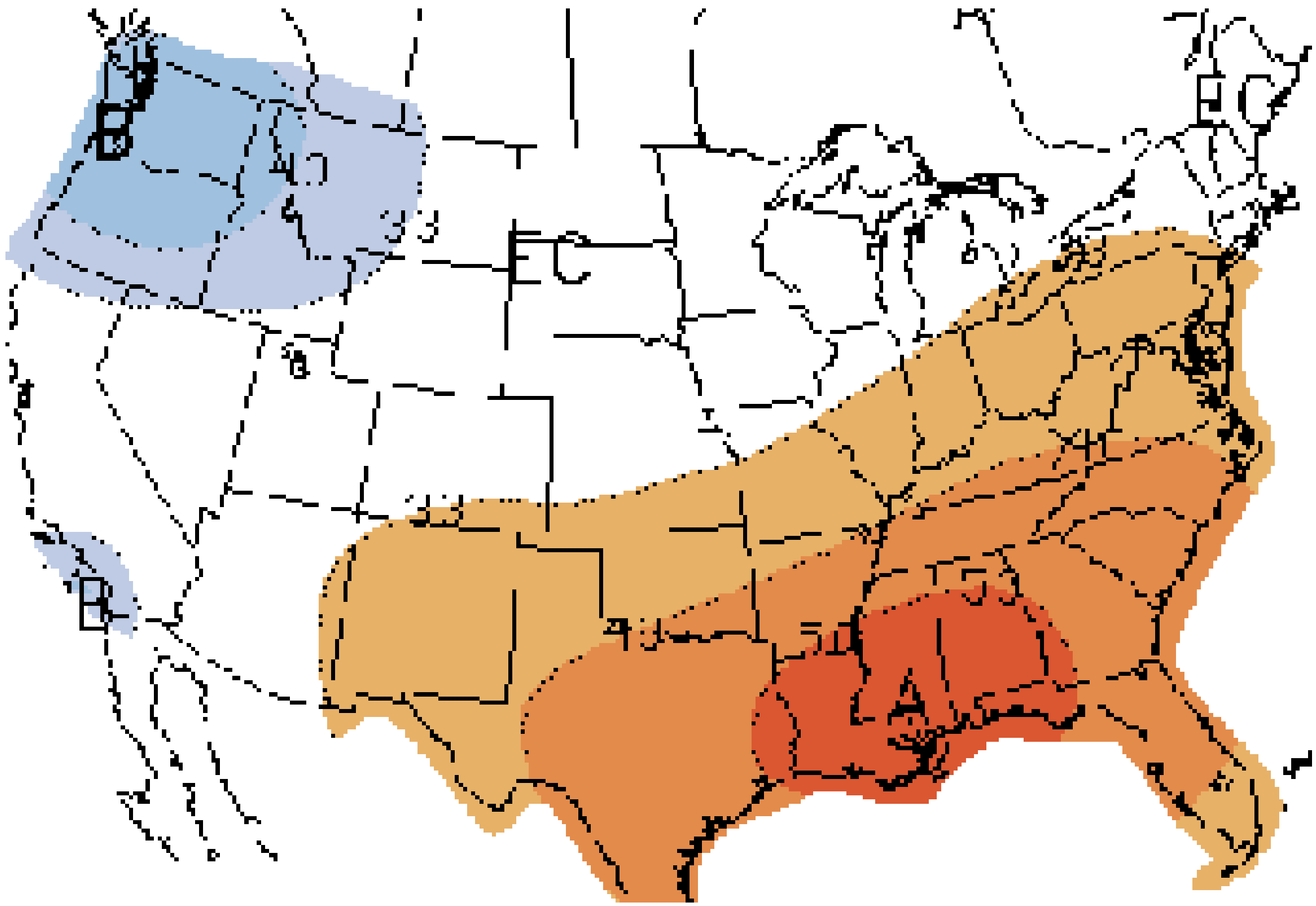
NOAA's Monthly Temperature Forecast Made February 29, Valid for March 2008



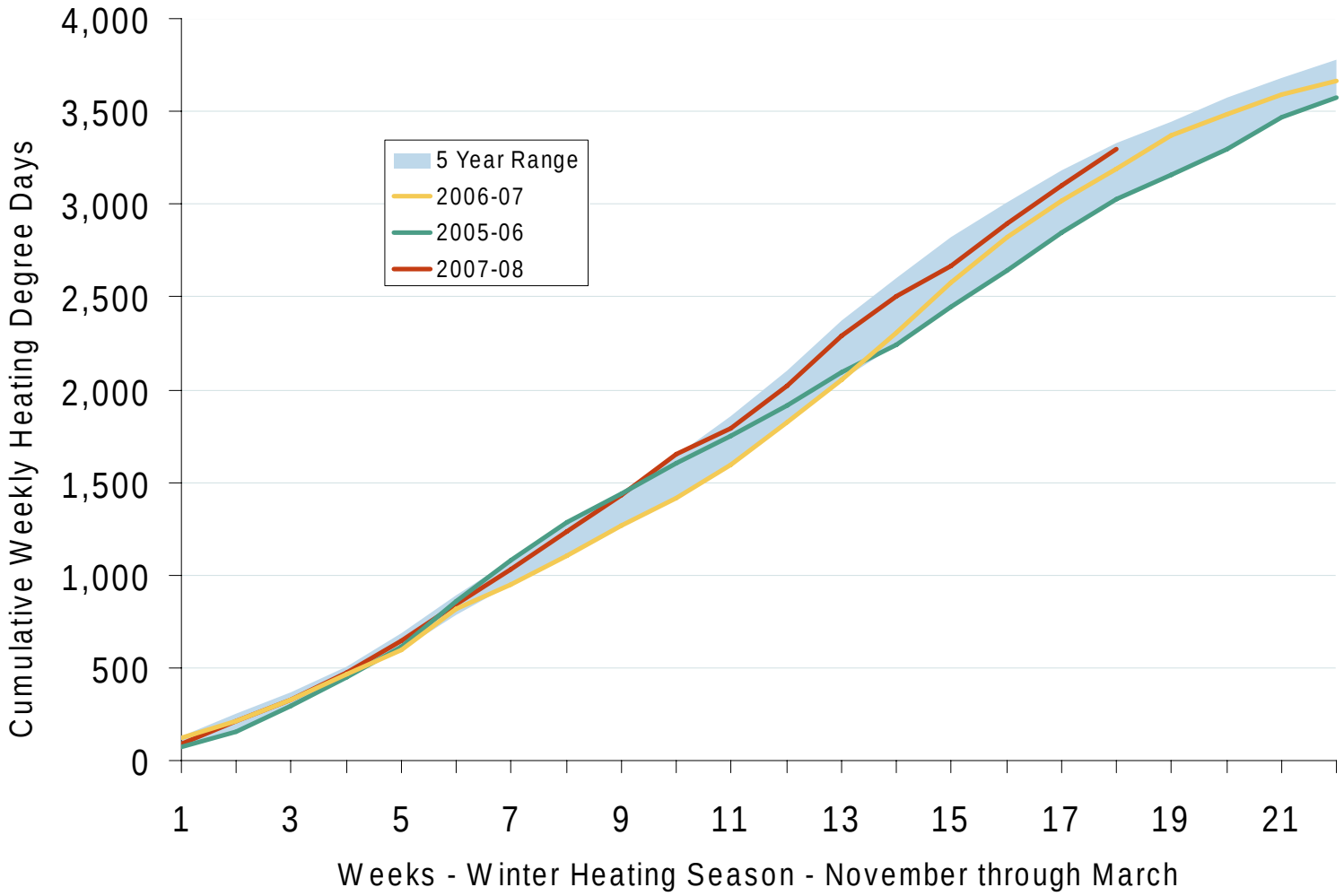
Note: "A" areas are above normal, "B" areas are below normal and "EC" means equal chance. Normal based on the last 30 years of data.

Source: NOAA

Updated March 7, 2008

3012

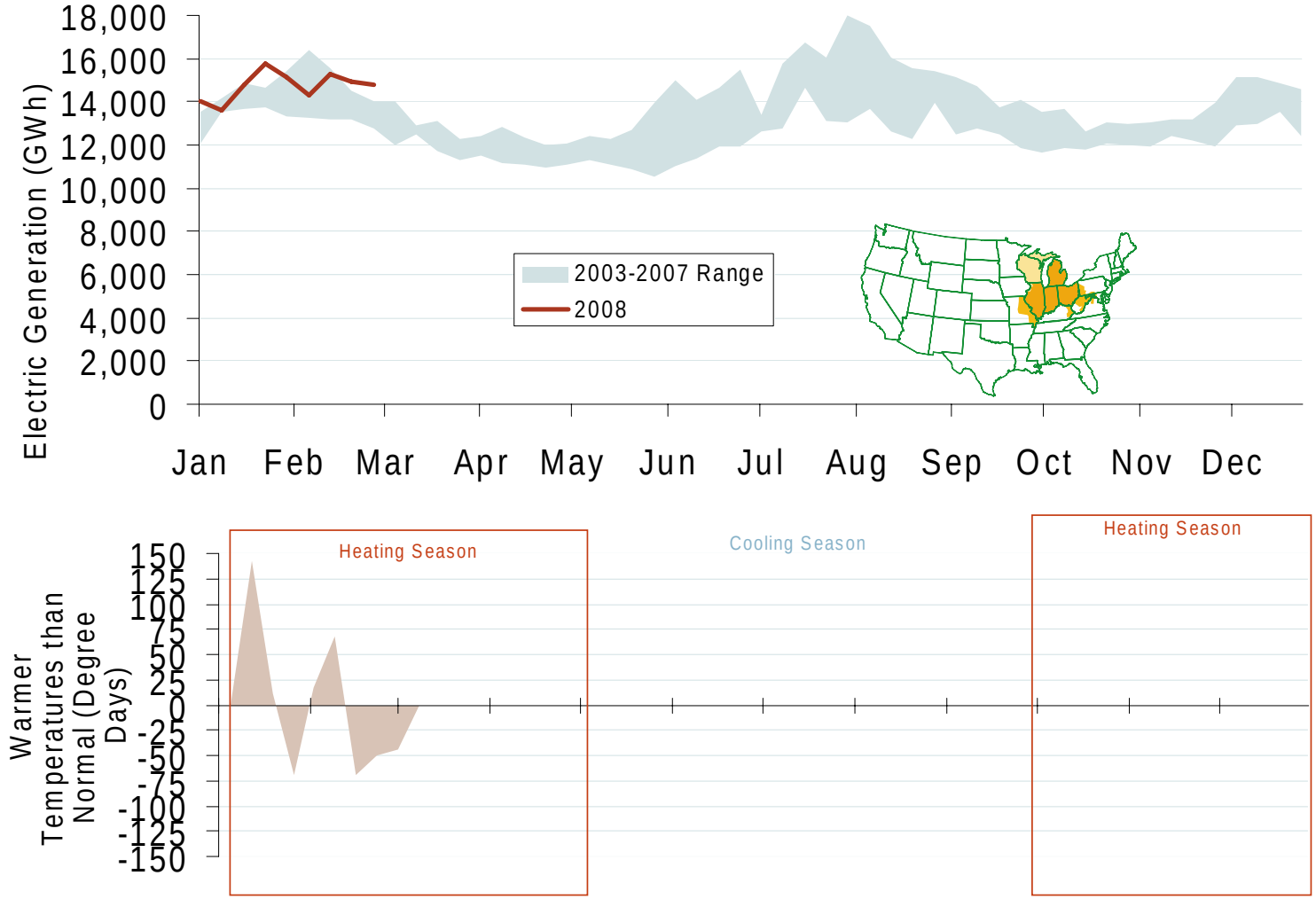
U. S. Winter Cumulative Heating Degree Days



Source: Derived from *NOAA* data.

Updated March 7, 2008

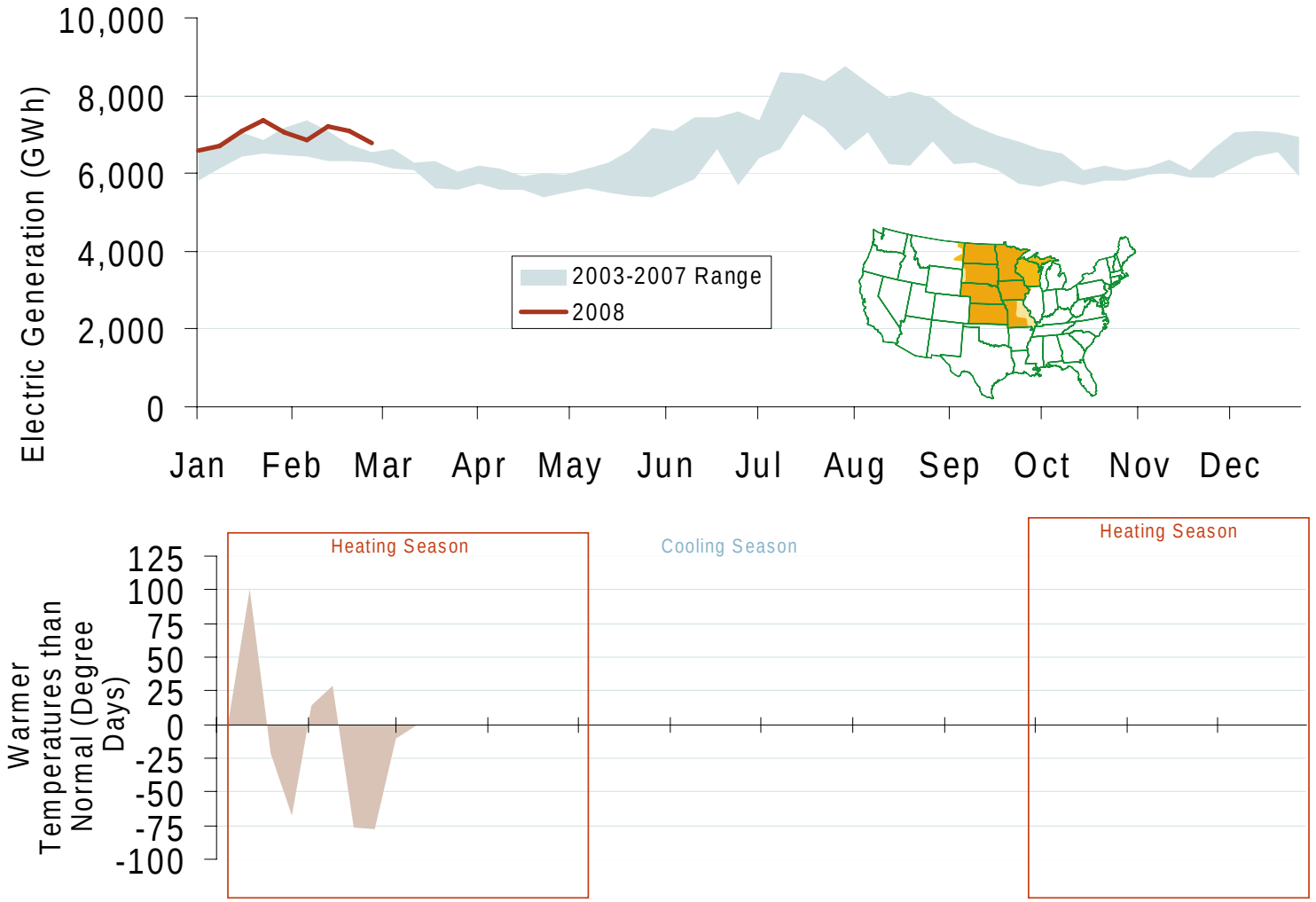
Weekly Electric Generation Output and Temperatures
Central Industrial Region



Source: Derived from *EEI* and *NOAA* data.

Updated March 7, 2008

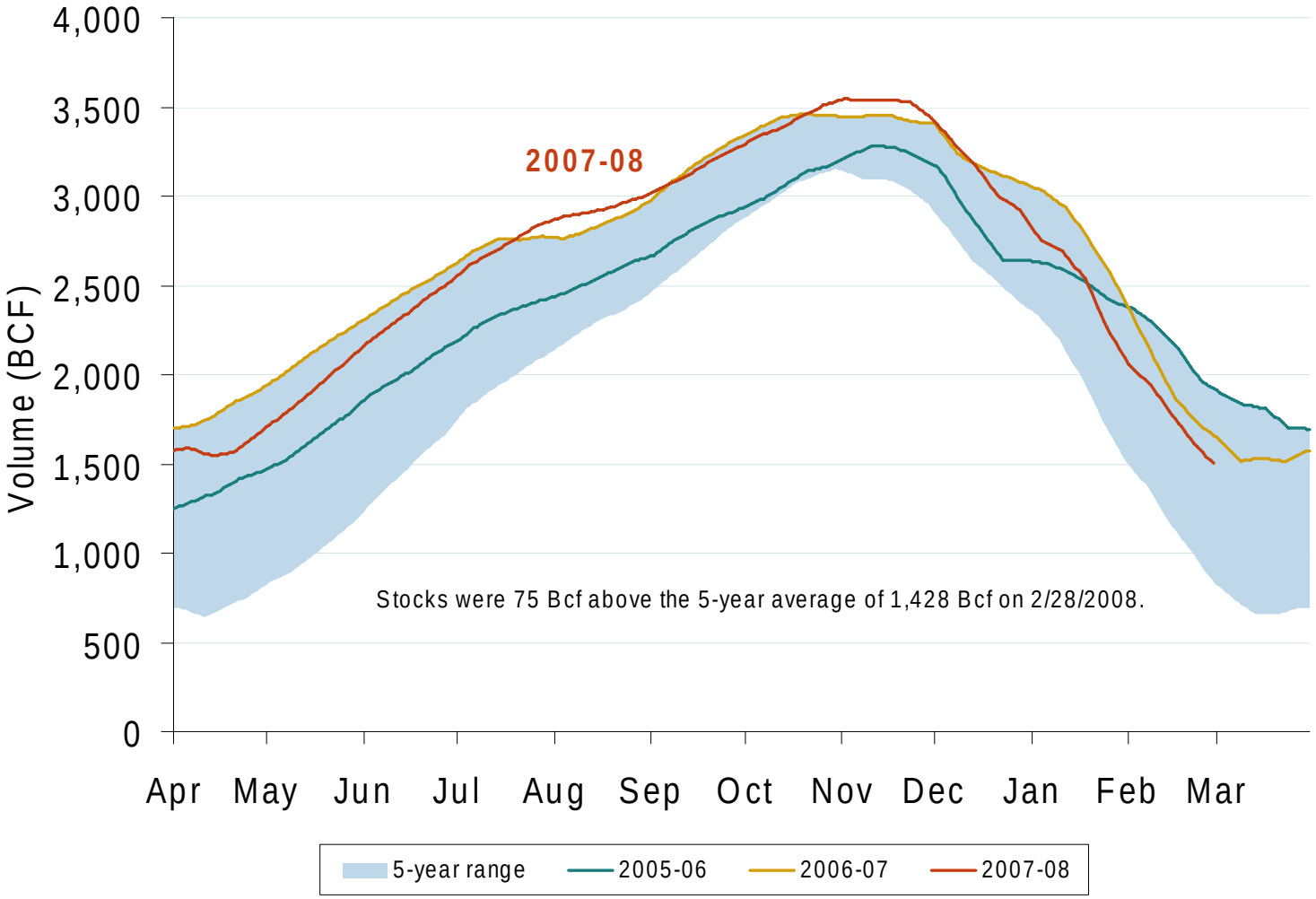
Weekly Electric Generation Output and Temperatures
West Central Region



Source: Derived from *EEI* and *NOAA* data.

Updated March 7, 2008

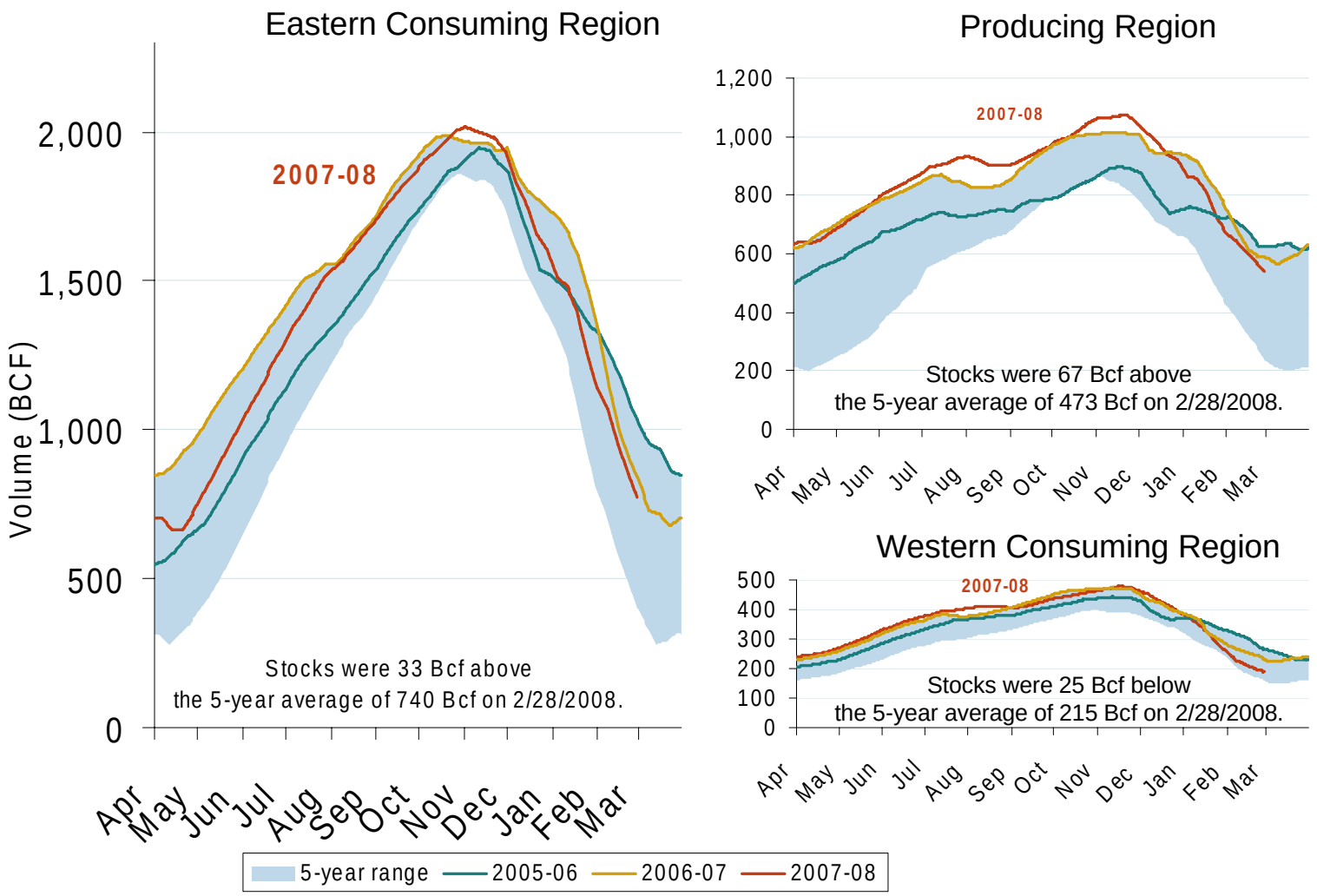
Total U.S. Working Gas in Storage



Source: Derived from *EIA* data.

Updated March 7, 2008

Regional Totals of Working Gas in Storage

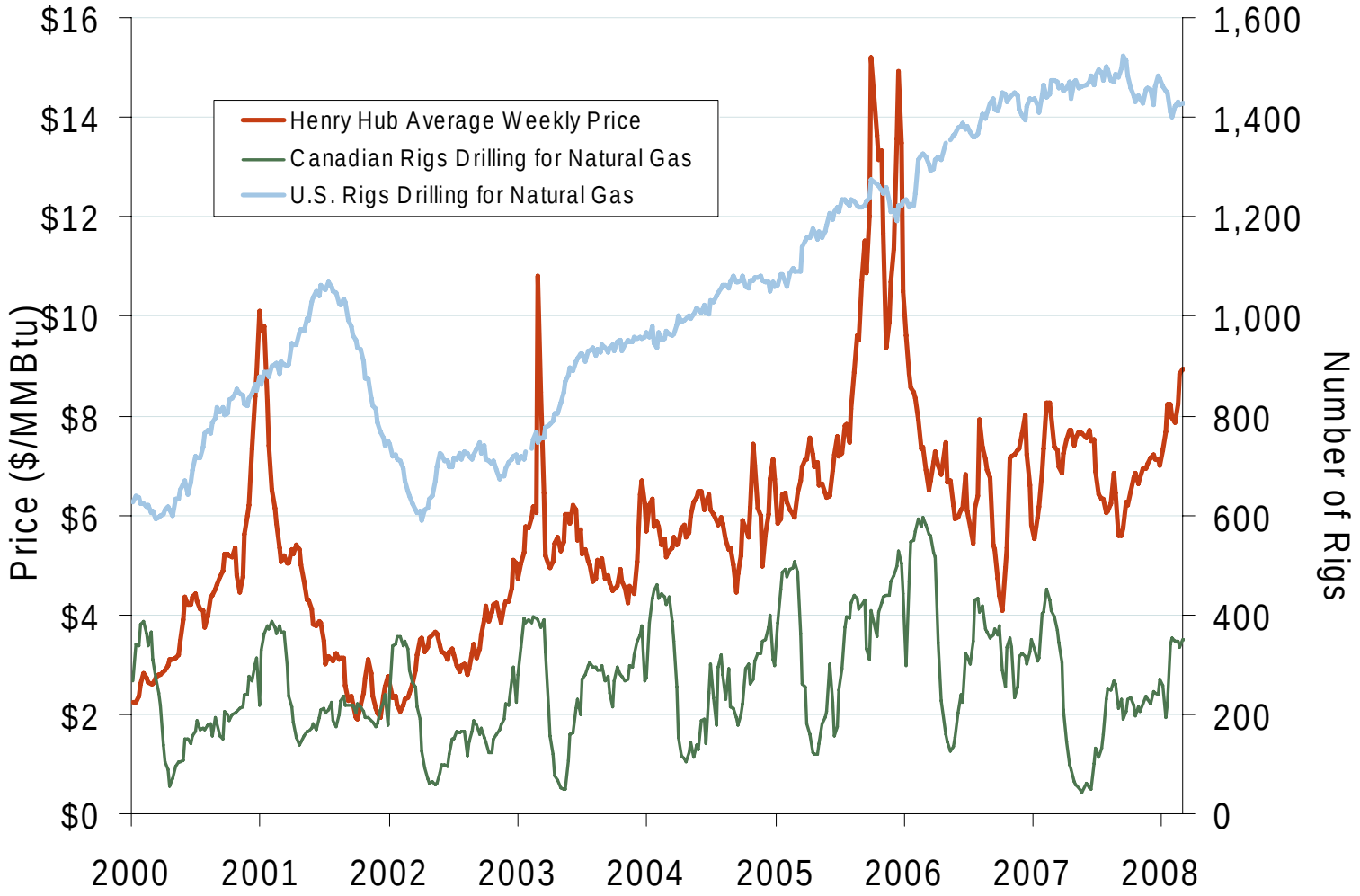


Source: Derived from *EIA* data.

Updated March 7, 2008

2004

U.S. and Canadian Natural Gas Drilling Rig Count and Daily Spot Prices

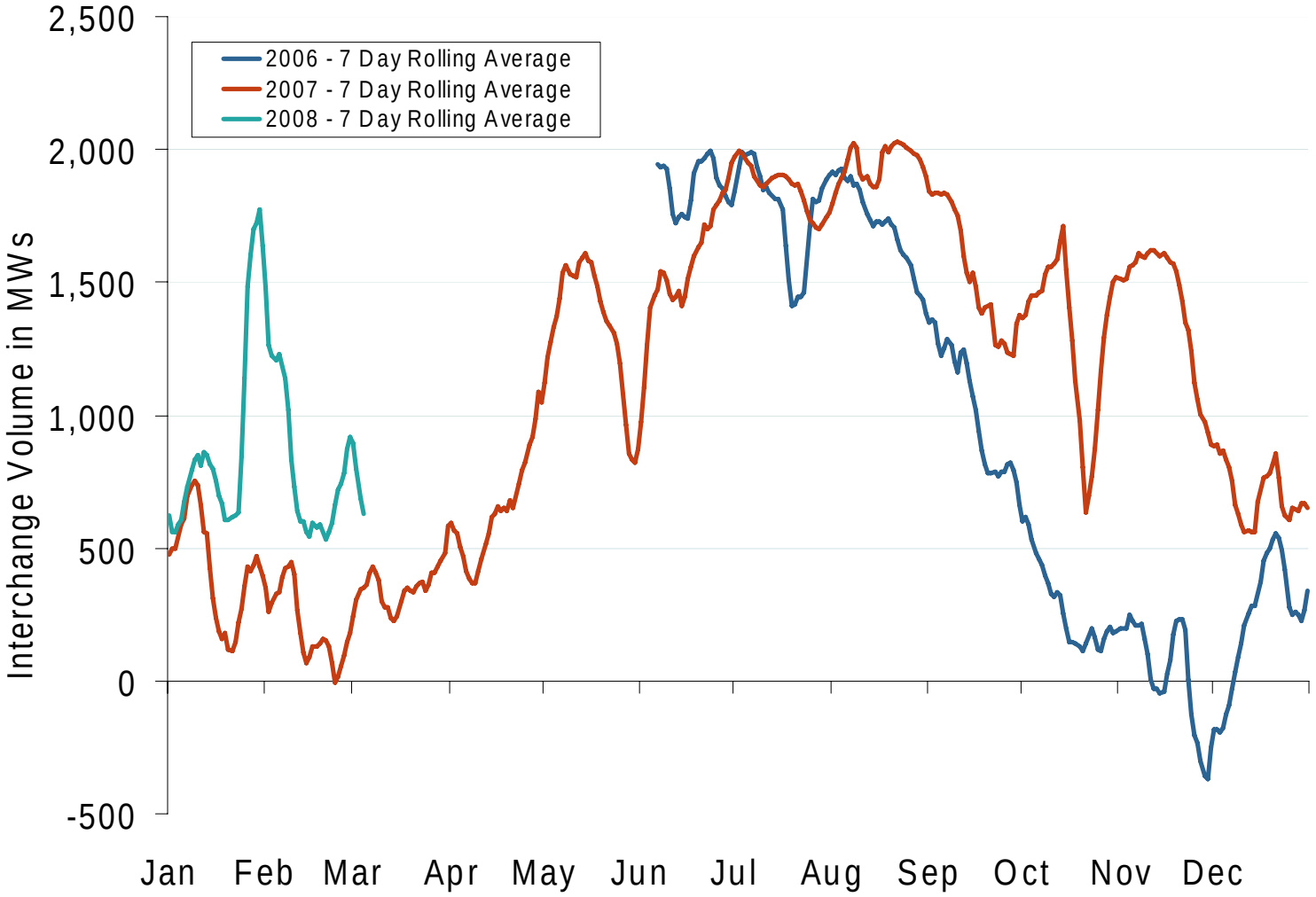


Source: Derived from *Platts* and *Baker Hughes* data.

Updated March 7, 2008

2007

Imports into MISO from Manitoba Hydro
2006, 2007, 2008



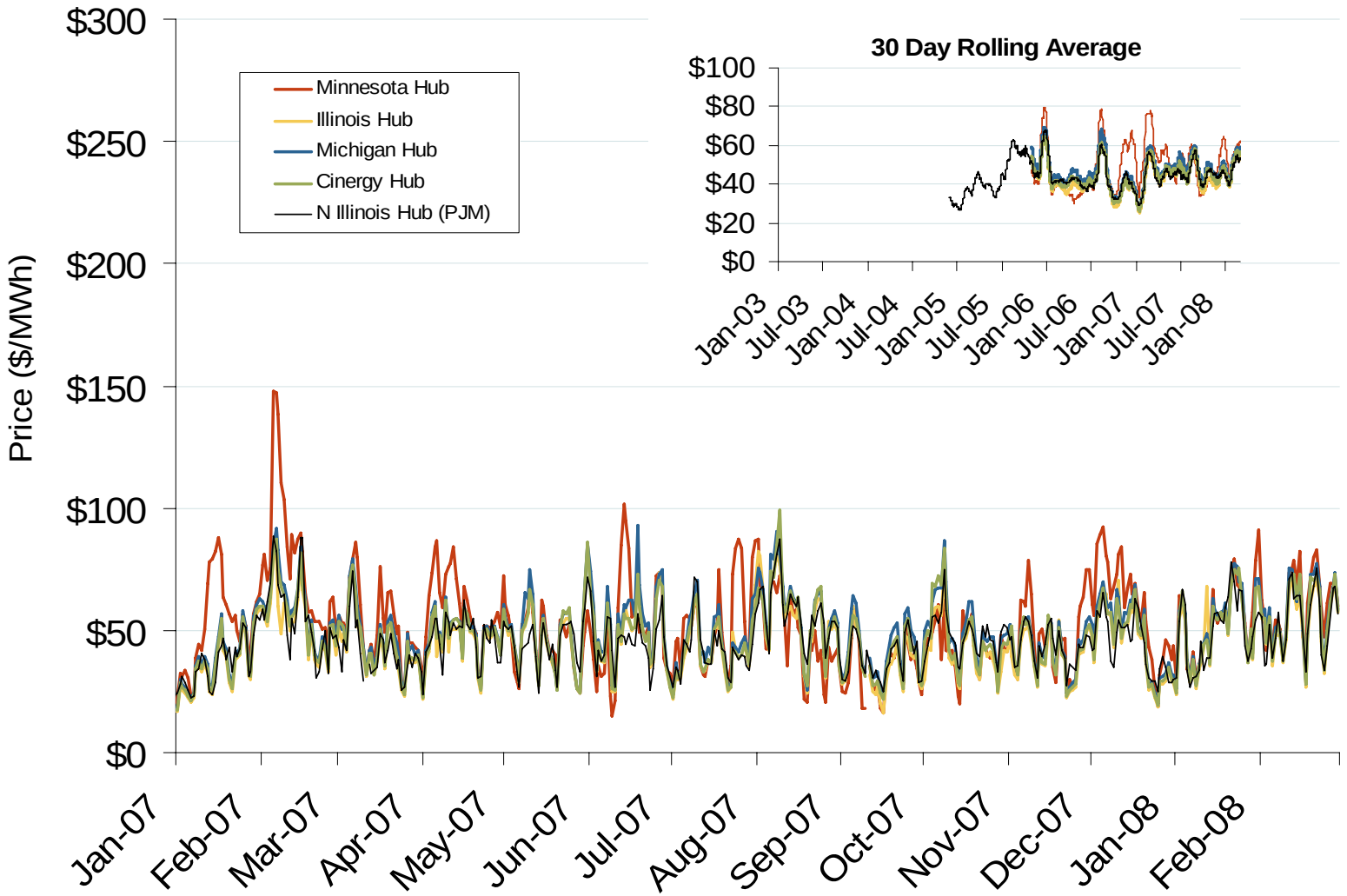
Source: Derived from *MISO* data.

Updated March 7, 2007

1135

Prices and Market Analysis

Daily Average of MISO Day-Ahead Prices - All Hours

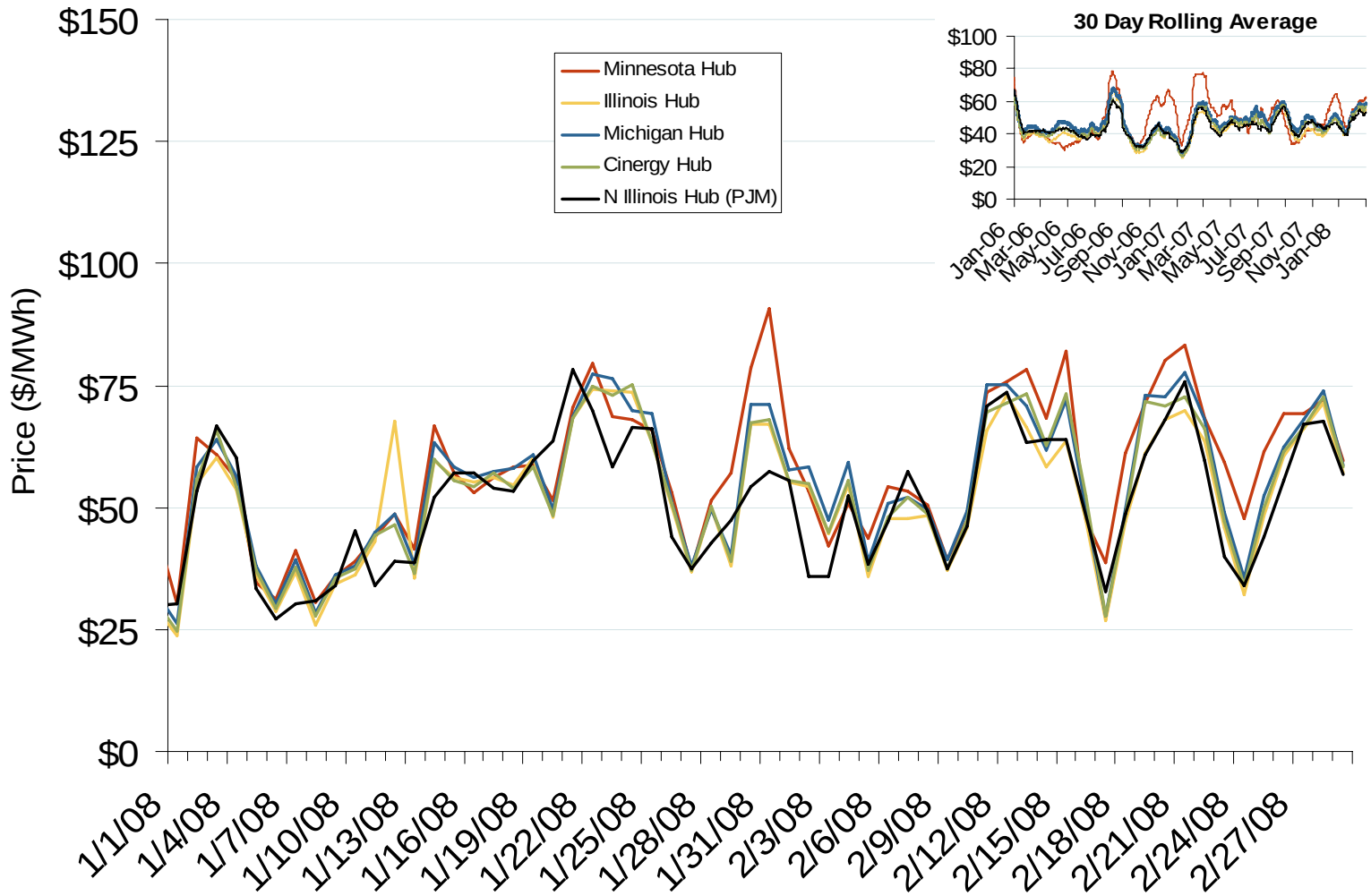


Source: Derived from *MISO and PJM* data.

Updated March 7, 2008

1013

Daily Average of MISO Day-Ahead Prices - All Hours

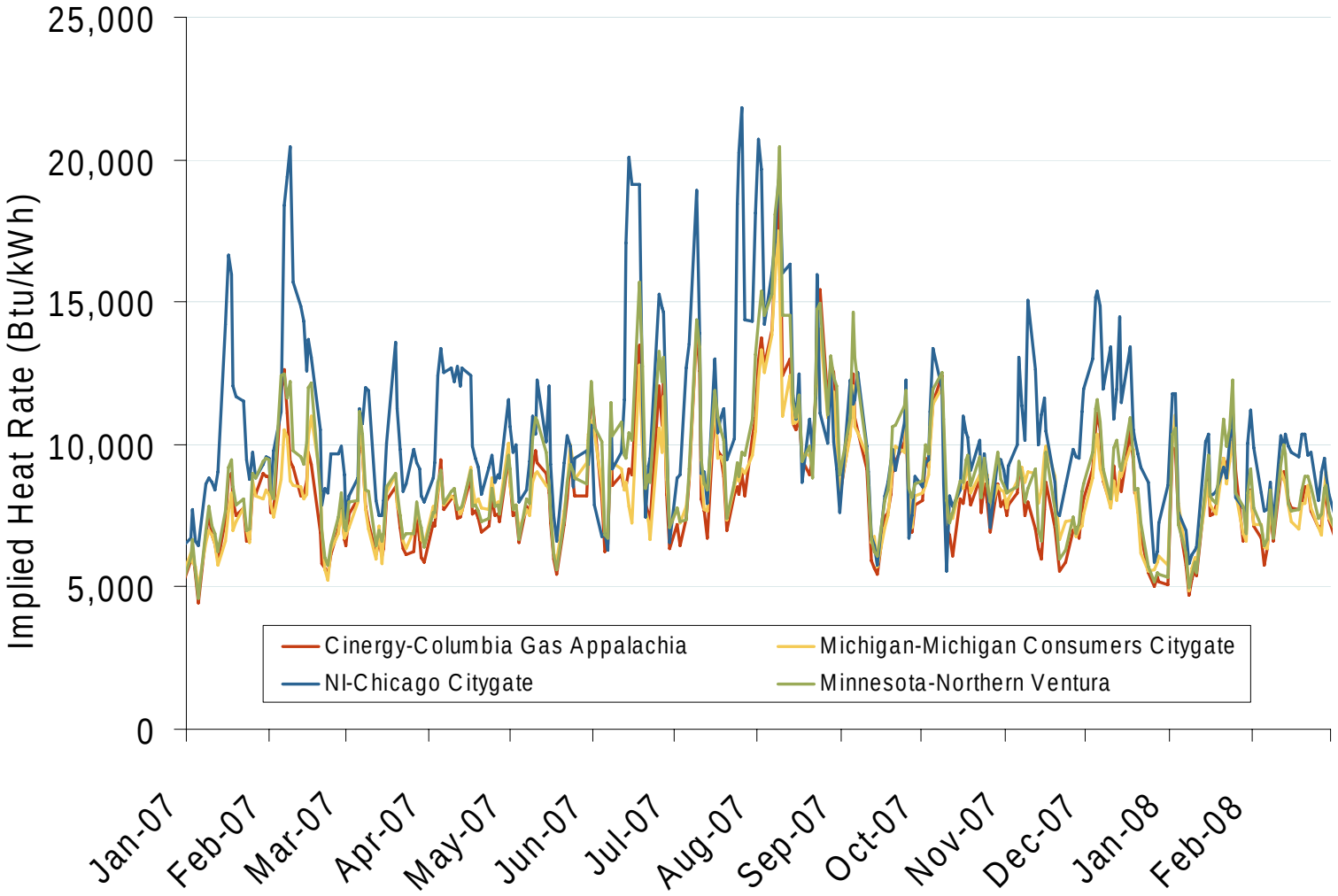


Source: Derived from *MISO and PJM* data.

Updated March 7, 2008

1128

Implied Heat Rates at MISO Hubs



Source: Derived from *Platts* data

Updated March 7, 2008

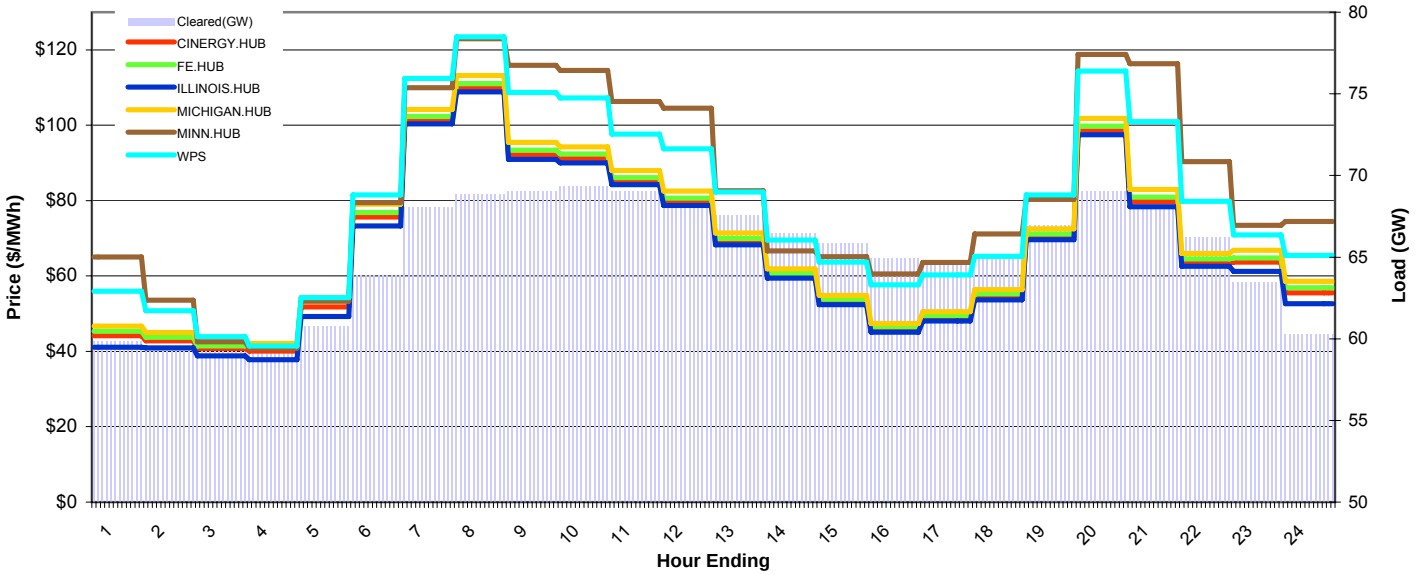
MISO Daily Report

Delivery Day: Tuesday, March 11, 2008

Price Color Codes: <=0 | >=100 | >=200

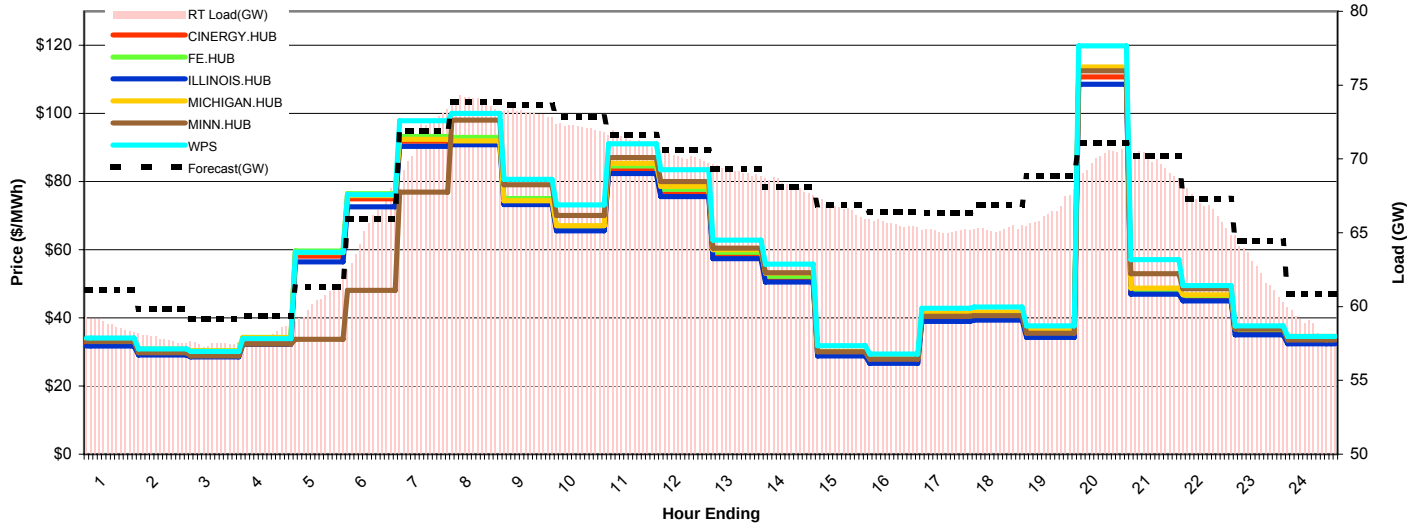
Day-Ahead Prices and Cleared Load

	HE1	HE2	HE3	HE4	HE5	HE6	HE7	HE8	HE9	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23	HE24
CINERGY.HUB	44.12	42.78	40.76	40.08	51.76	75.63	101.12	109.71	92.12	91.11	85.00	79.61	69.02	60.00	53.07	45.71	48.76	54.39	70.27	98.48	79.70	63.55	63.70	55.57
FE.HUB	45.35	43.69	41.45	41.92	53.36	76.83	102.31	111.07	93.41	92.42	86.10	80.68	69.93	60.75	53.80	46.53	49.47	55.32	71.15	99.76	80.90	64.55	64.80	56.89
ILLINOIS.HUB	41.13	40.89	38.77	37.75	49.23	73.28	100.40	108.82	90.97	89.99	84.24	78.73	68.29	59.46	52.43	45.05	48.10	53.70	69.64	97.50	78.38	62.57	61.26	52.66
MICHIGAN.HUB	46.72	45.00	42.64	42.11	54.23	79.05	104.17	113.15	95.43	94.29	87.93	82.52	71.38	61.89	54.88	47.42	50.51	56.34	72.50	101.80	82.99	65.95	66.84	58.60
MINN.HUB	65.02	53.60	42.57	40.83	53.30	79.50	109.94	122.92	115.94	114.58	106.29	104.55	82.61	66.66	65.13	60.57	63.62	71.14	80.31	118.79	116.29	90.35	73.49	74.43
WPS	55.97	50.78	43.937	41.413	54.267	81.487	112.43	123.42	108.7	107.26	97.62	93.753	82.293	69.557	63.653	57.613	60.297	65.253	81.54	114.38	100.96	79.847	70.897	65.47
Cleared(GW)	59.8	59.4	59.3	59.6	60.7	63.9	68.0	68.8	69.0	69.3	69.1	68.6	67.6	66.5	65.8	64.9	64.8	65.2	67.0	69.0	68.2	66.2	63.5	60.3



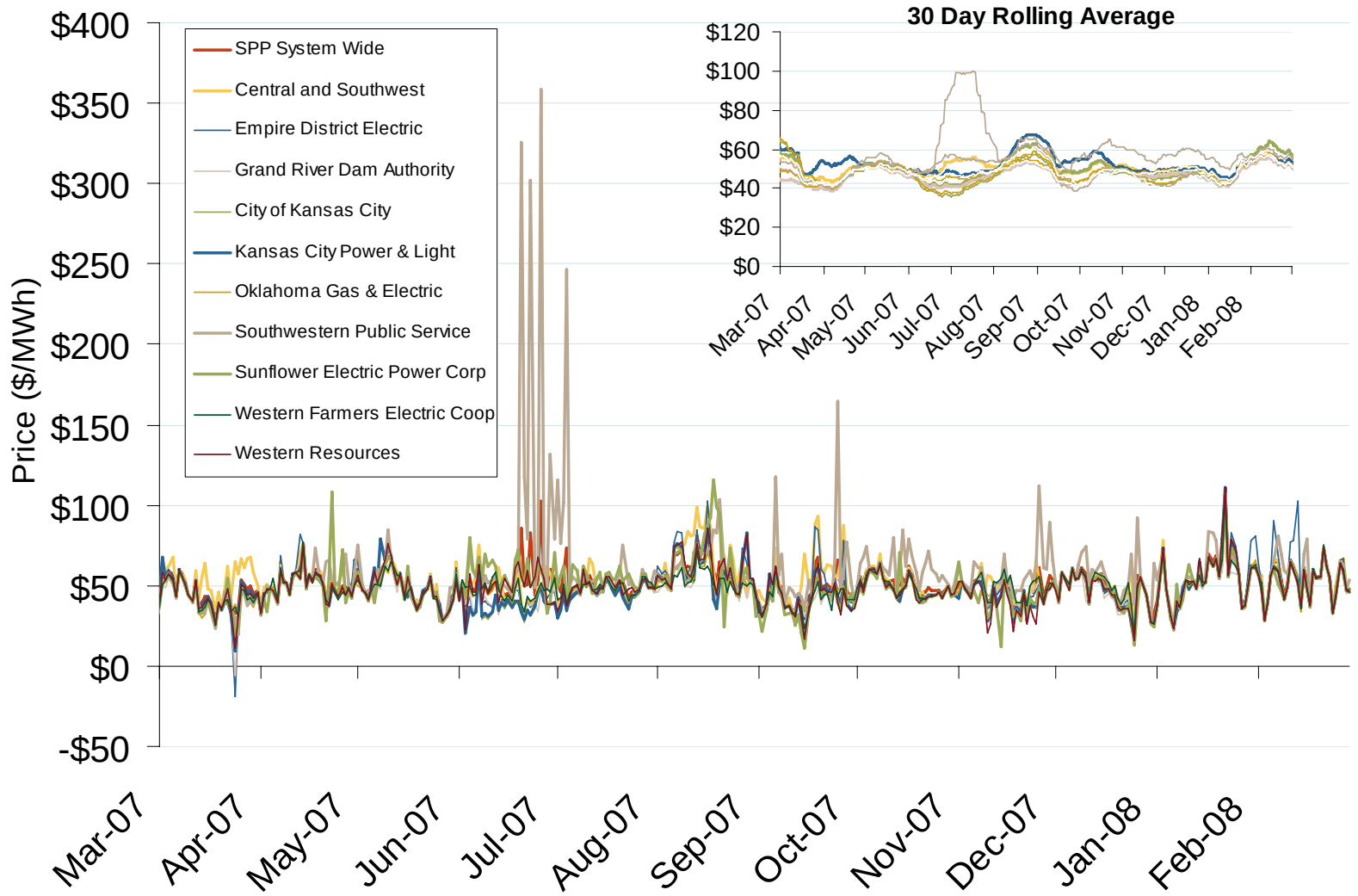
Preliminary Real-Time Prices with Forecasted and Actual System Load

	HE1	HE2	HE3	HE4	HE5	HE6	HE7	HE8	HE9	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23	HE24
CINERGY.HUB	32.48	29.89	29.43	33.26	58.11	74.98	91.86	91.74	73.92	65.95	83.19	76.39	58.13	51.15	29.18	27.11	39.79	40.21	35.06	110.73	47.52	45.71	35.84	33.45
FE.HUB	33.33	30.79	30.37	34.28	59.61	76.47	93.24	92.98	75.02	66.89	84.64	77.77	59.30	52.27	29.87	27.84	40.97	41.31	36.07	113.15	48.39	46.60	36.50	34.29
ILLINOIS.HUB	31.77	29.14	28.60	32.25	56.44	72.64	90.38	90.84	73.29	65.55	82.39	75.65	57.37	50.55	28.79	26.66	39.00	39.39	34.32	108.63	46.96	45.02	35.02	32.39
MICHIGAN.HUB	33.38	30.80	30.32	34.20	59.19	75.85	92.43	91.97	74.37	67.09	85.37	78.59	60.02	53.18	30.19	28.11	41.37	41.72	36.25	113.65	48.77	46.77	36.80	34.60
MINN.HUB	33.03	29.82	28.85	32.28	33.68	48.12	76.90	98.10	79.10	70.03	87.11	80.05	60.52	53.23	30.08	27.91	40.52	40.63	35.54	112.54	52.99	48.54	36.76	33.49
WPS	34.07	30.89	30.15	33.90	59.24	76.14	97.86	99.99	80.70	73.15	91.11	83.50	62.83	55.83	31.82	29.38	42.83	43.17	37.71	119.85	57.07	49.54	37.67	34.56
Forecasted(GW)	58.0	55.8	54.4	53.6	53.2	53.5	54.8	55.7	56.7	58.1	58.3	58.1	57.7	57.2	56.6	56.0	56.0	58.1	61.6	65.3	63.8	63.0	60.8	58.8
(RT) - (DA Load)	-1.07	-1.57	-1.85	-1.51	-0.35	1.68	3.47	5.02	4.09	2.81	2.27	1.57	1.61	1.73	0.82	0.69	0.31	0.09	-0.51	0.98	1.58	0.49	-1.01	-1.57



Link to MISO Daily Report

Daily Average of SPP Real Time Prices - All Hours



Source: Derived from *SPP* data.

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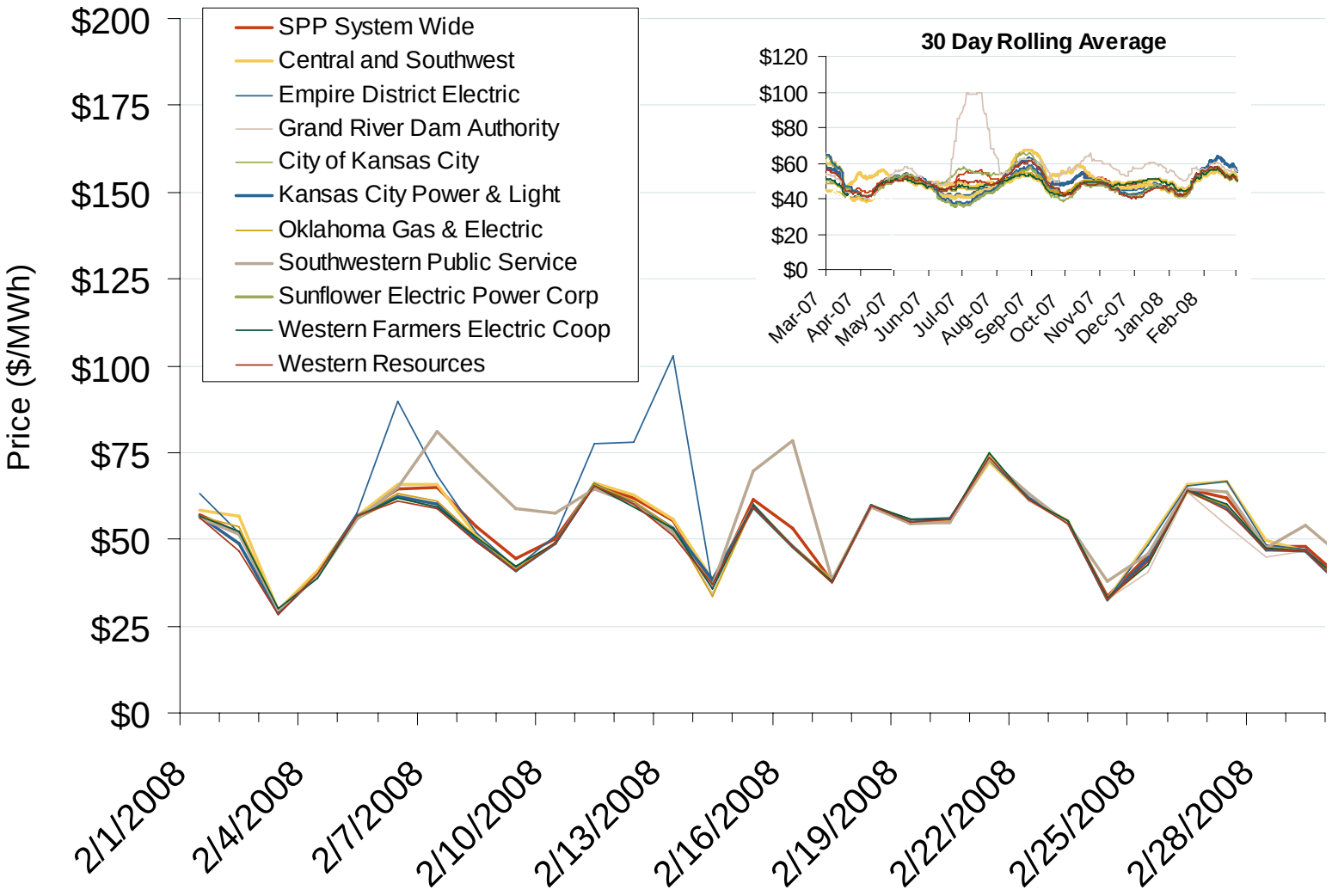
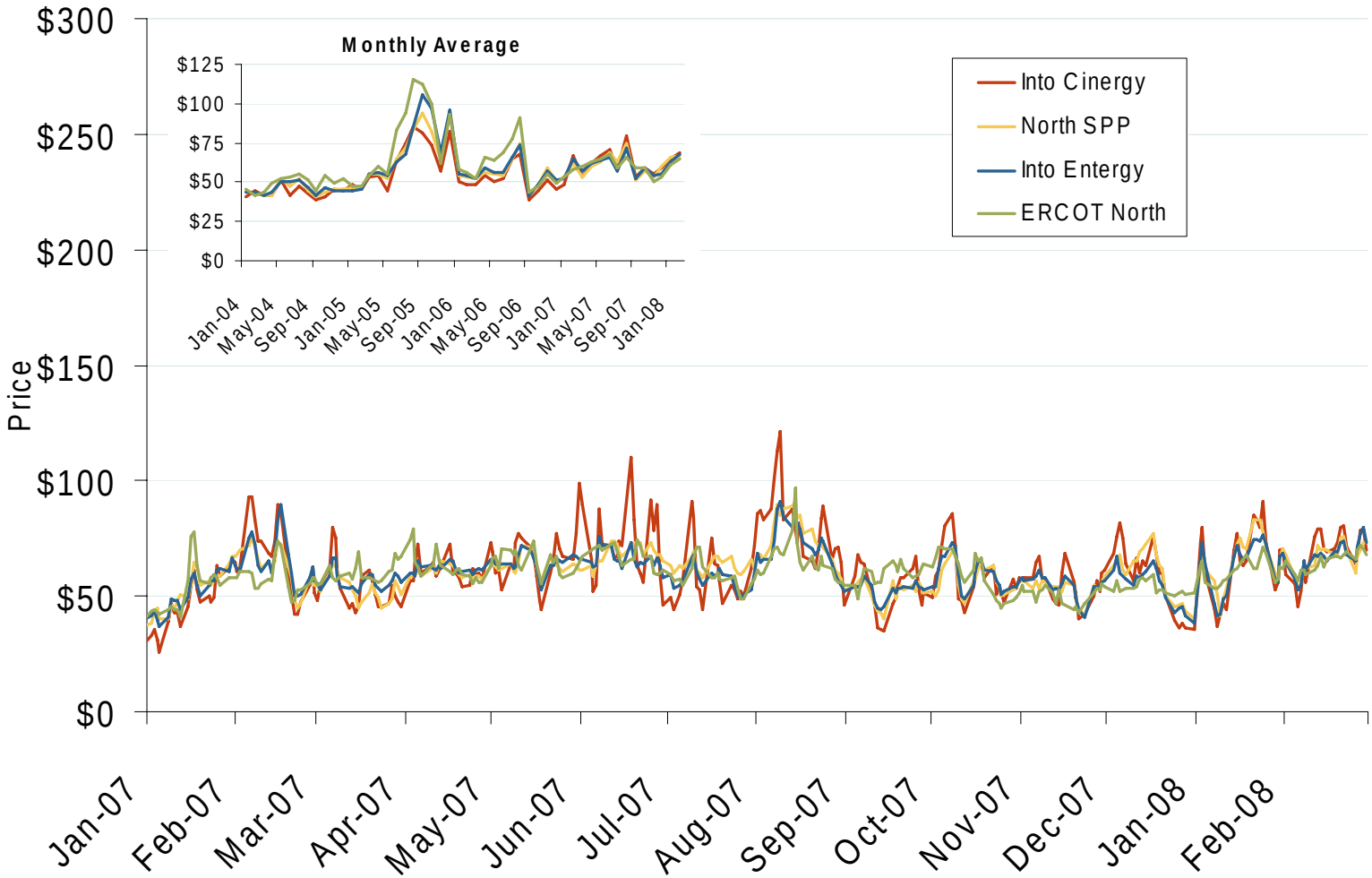
Daily Average of SPP Real Time Prices - All Hours



Source: Derived from *SPP* data.

Updated March 7, 2008

Midwestern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated March 7, 2008

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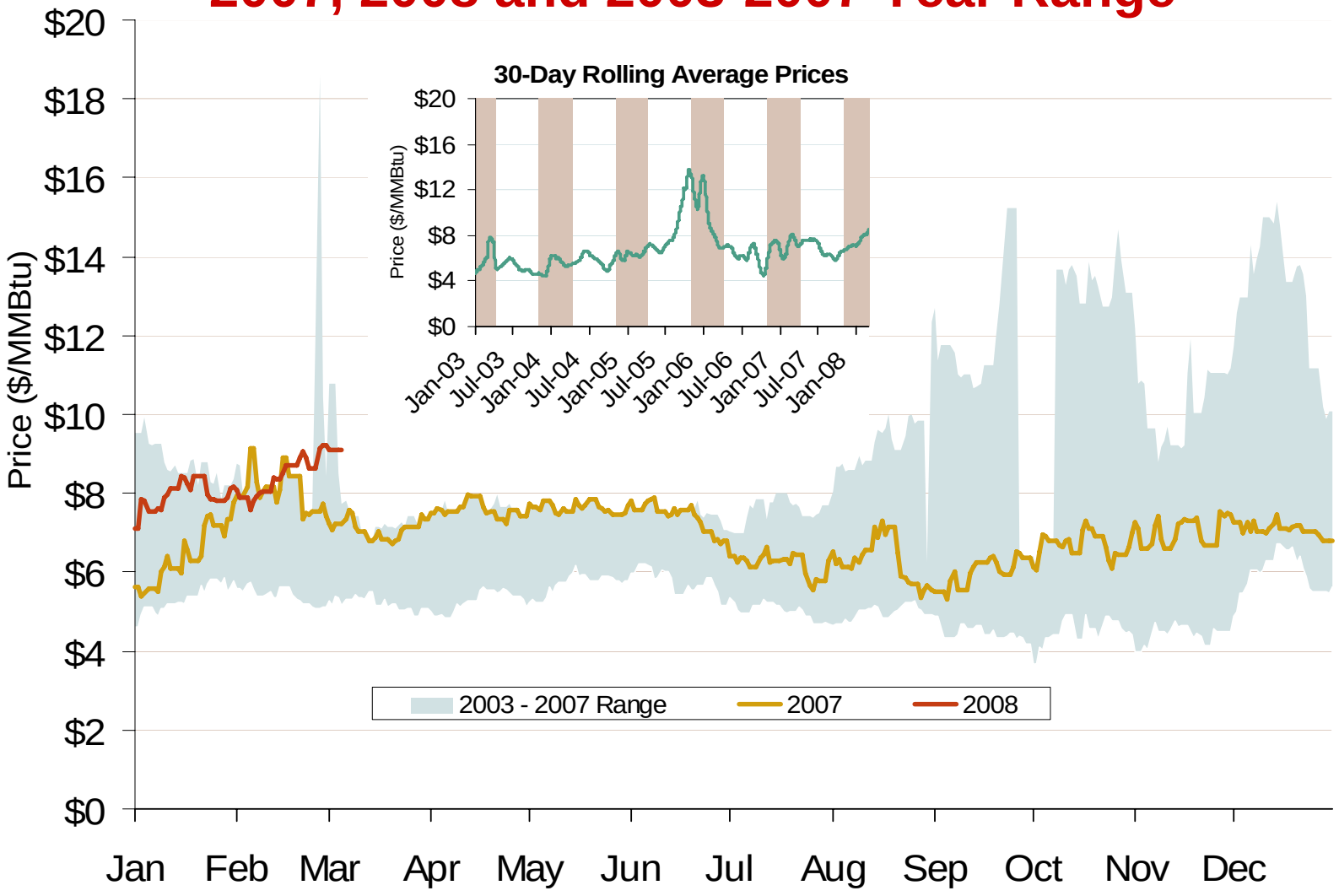
Henry Hub Natural Gas Daily Spot Prices
2007, 2008 and 2003-2007 Year Range

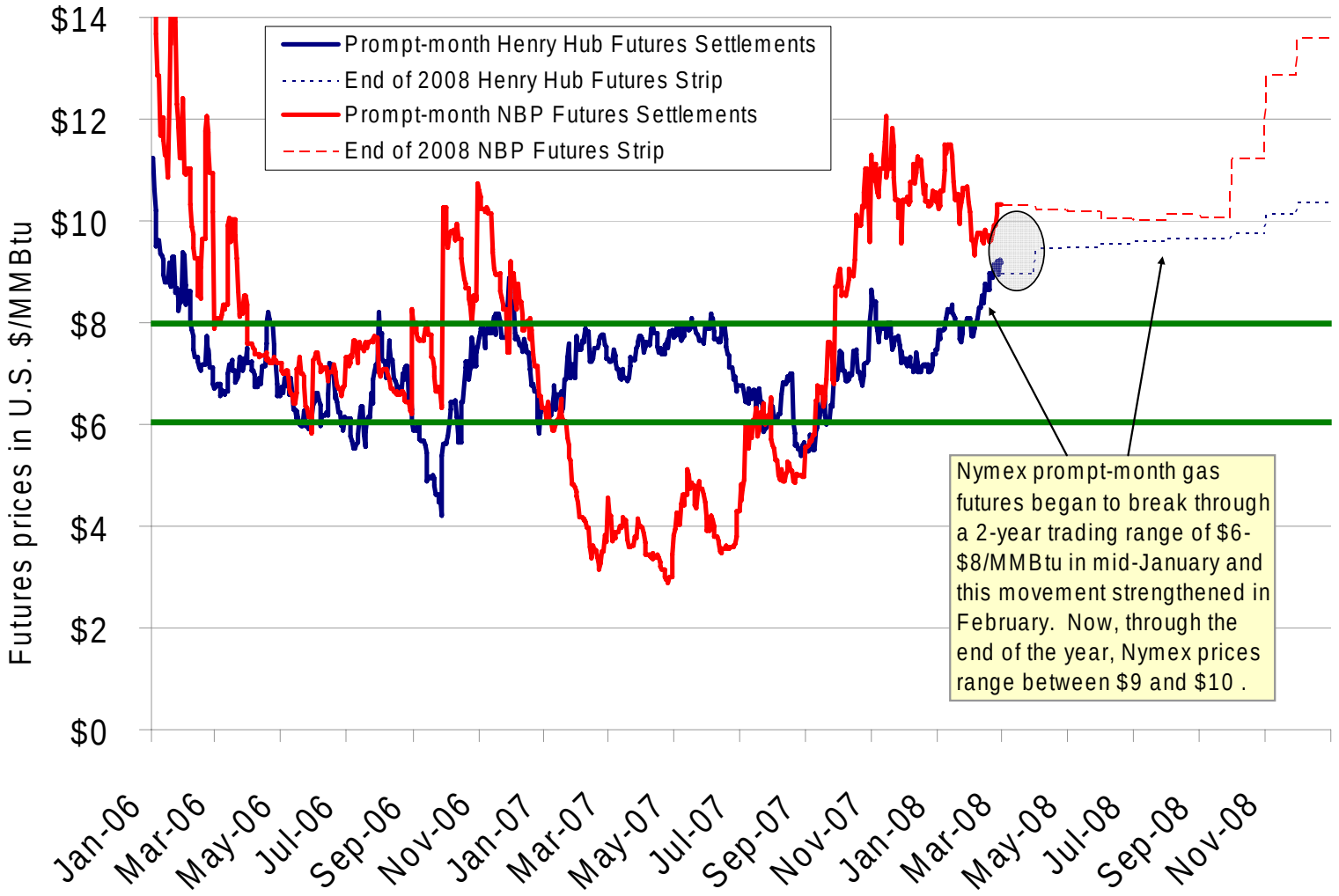


Source: Derived from *Platts* data.

Updated March 16, 2008

2085

U. S. Gas Futures Prices Rise Above $6-$8 Range

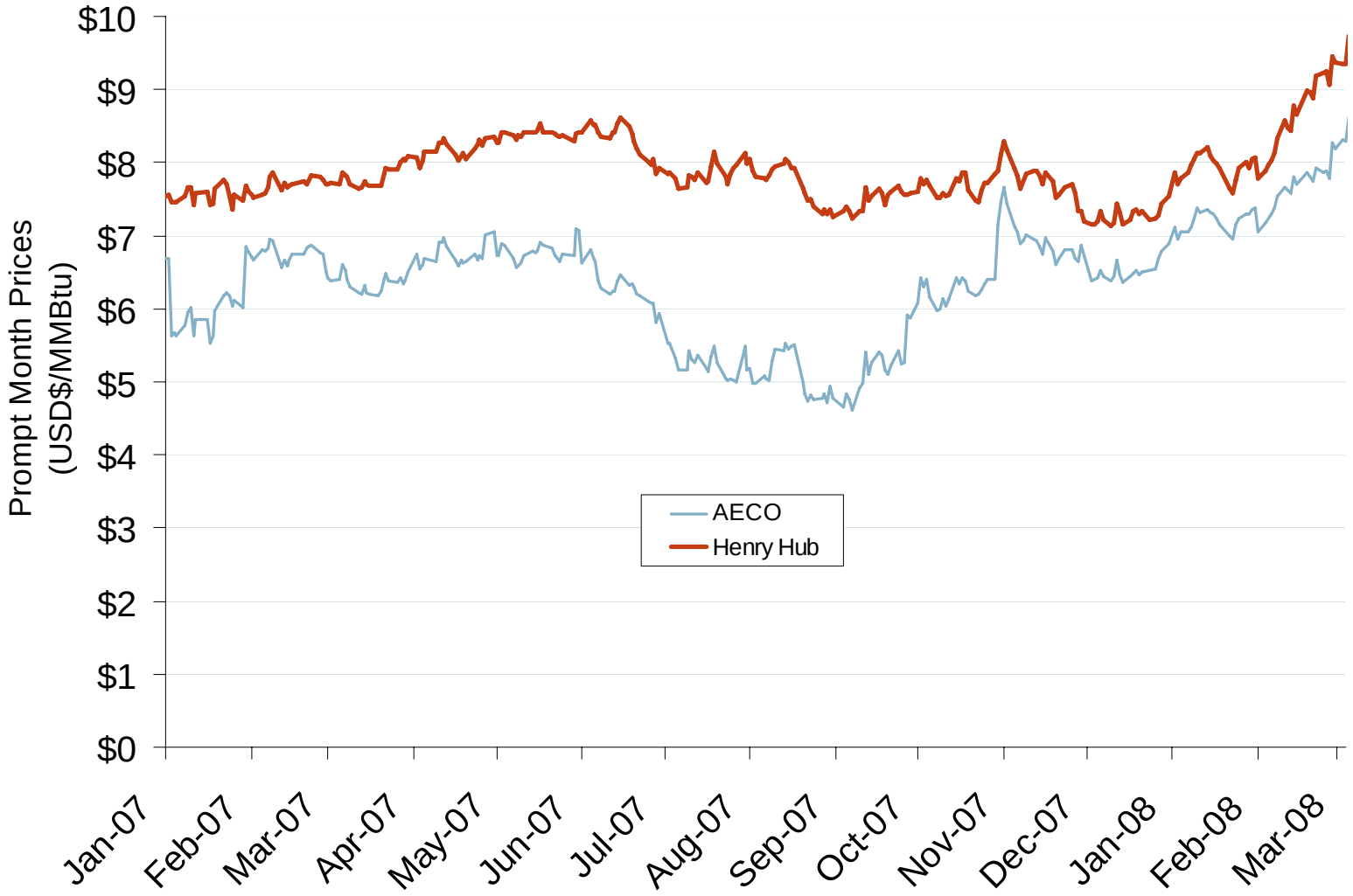


Source: Derived from *NYMEX* and *ICE* data.

Updated March 16, 2008

2177

Henry Hub and AECO Prompt-Month Futures Prices

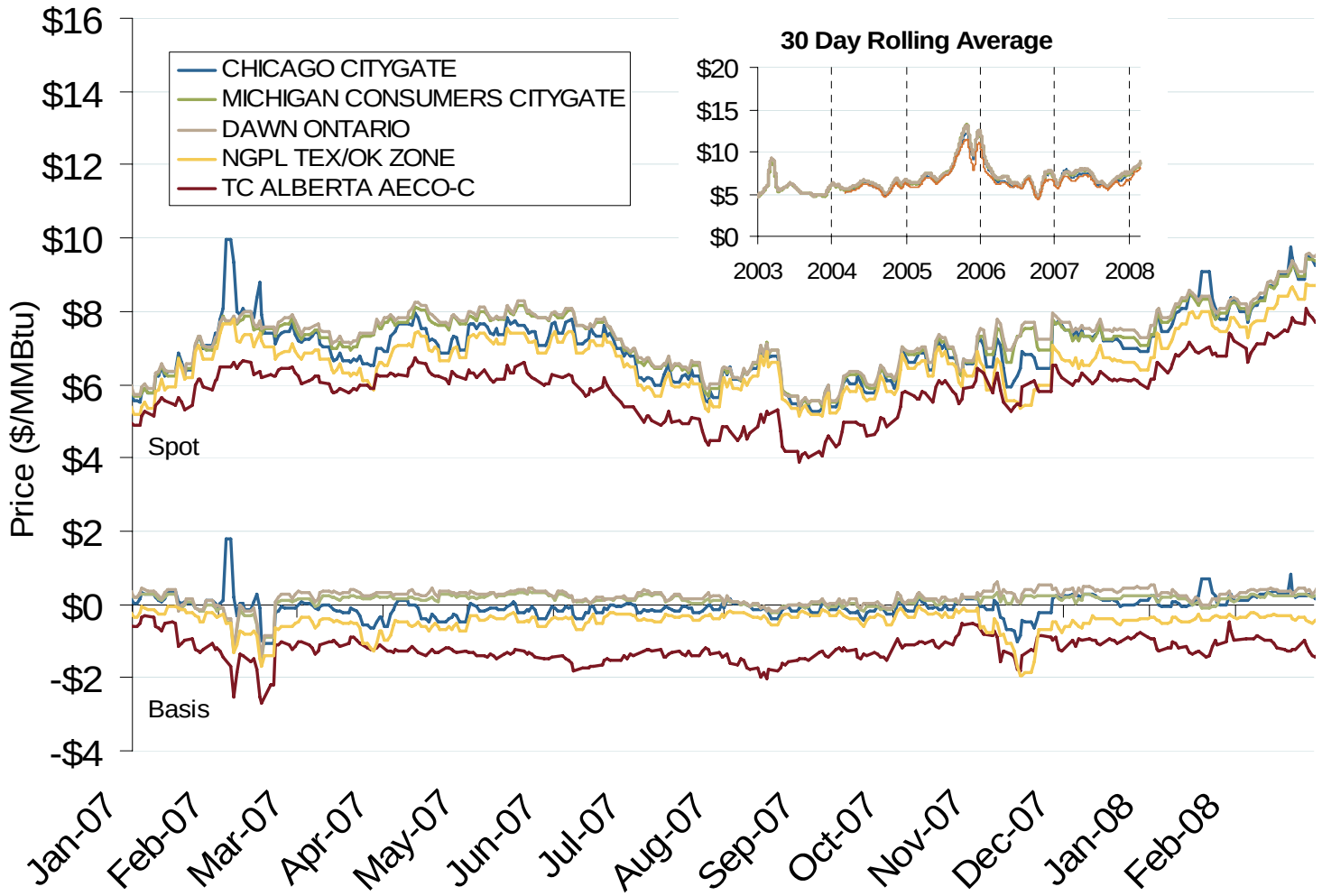


Source: Derived from *ICE* data.

Updated March 7, 2008

2172

Midwestern Day-Ahead Hub Spot Prices and Basis

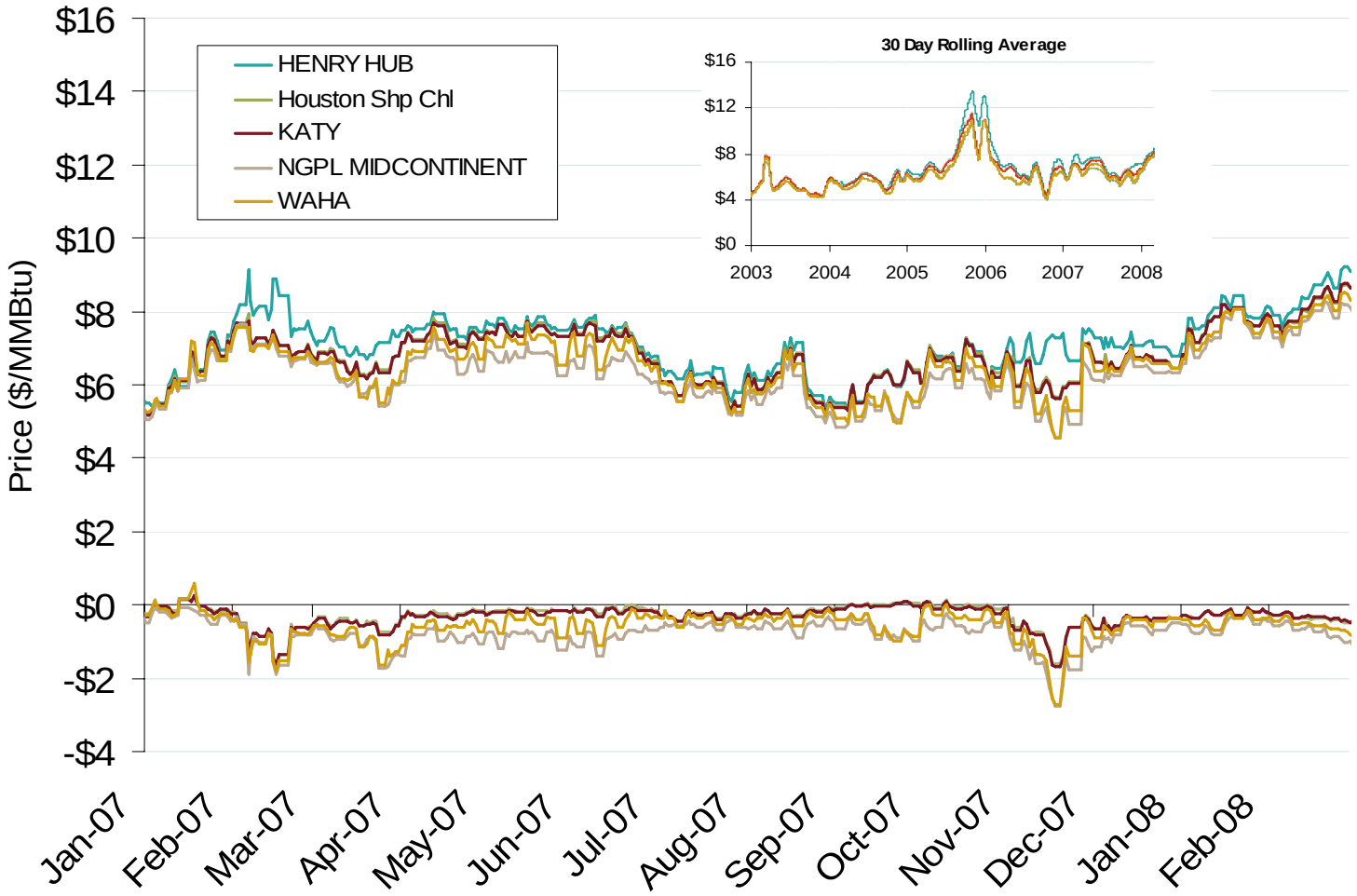


Source: Derived from *Platts* data.

Updated March 7, 2008

2016

South Central Day-Ahead Hub Spot Prices and Basis

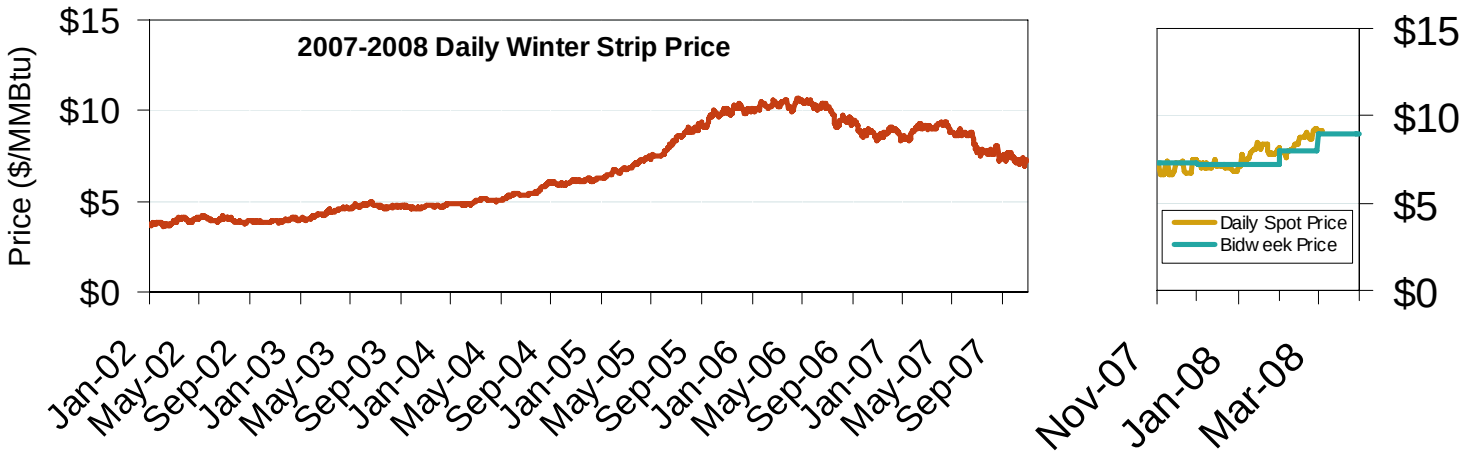


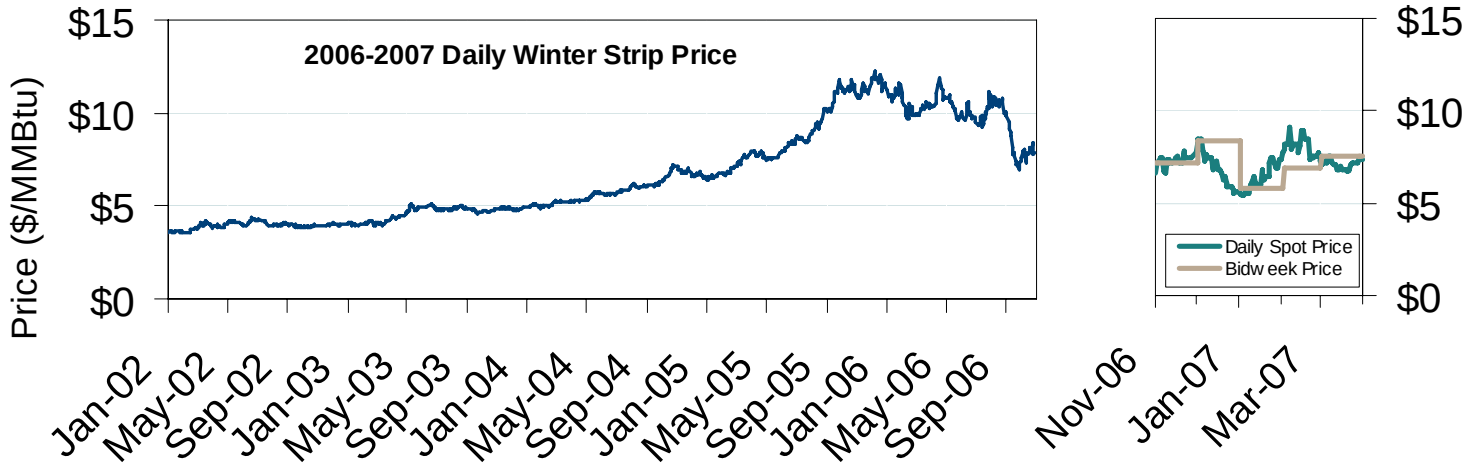
Source: Derived from *Platts* data.

Updated March 7, 2008

2044

Natural Gas Winter Futures Strip and Daily Henry Hub Spot and Bidweek Prices



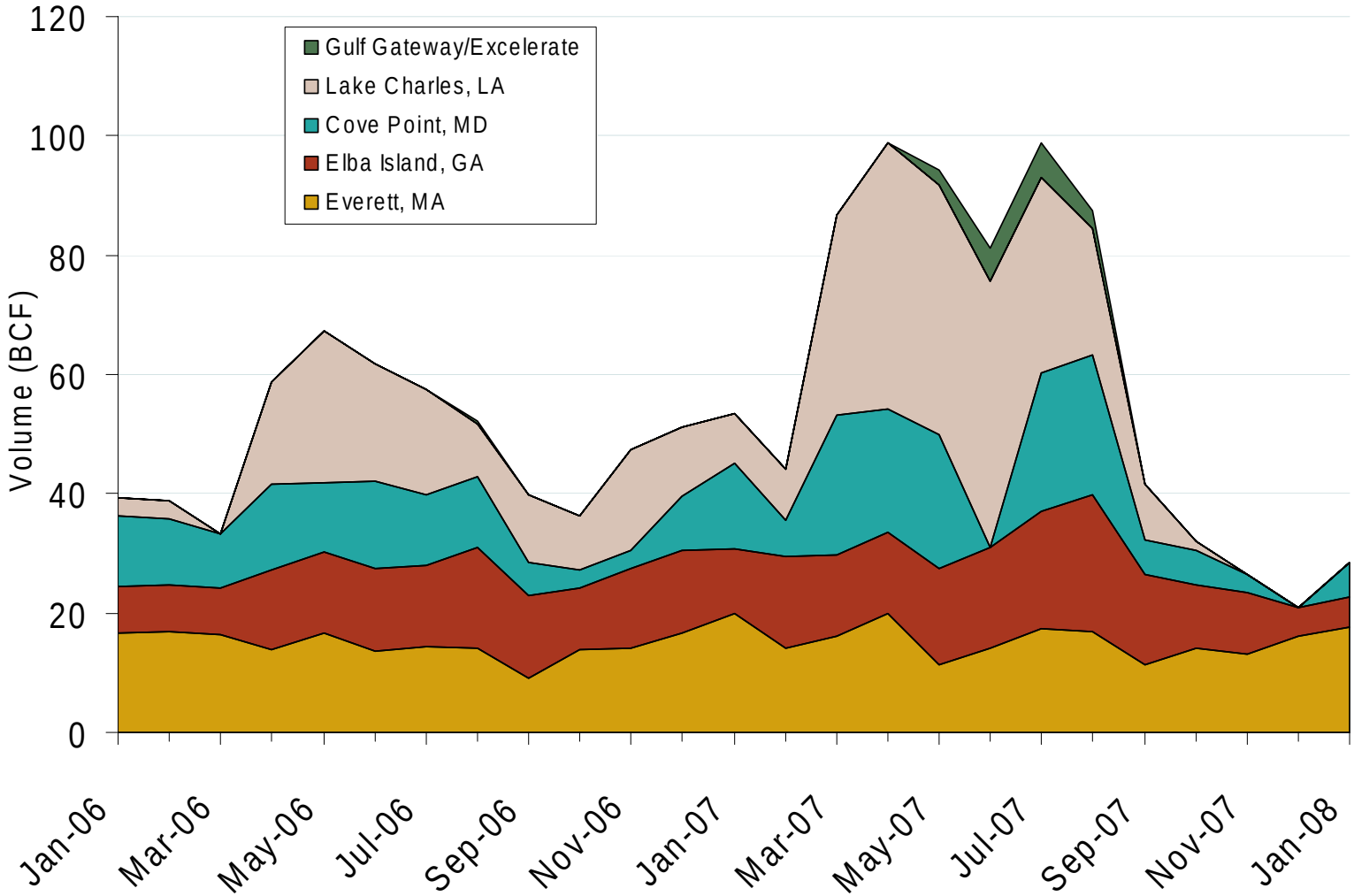


Source: Derived from *Platts* and *Nymex* data.

Updated March 7, 2008

2158

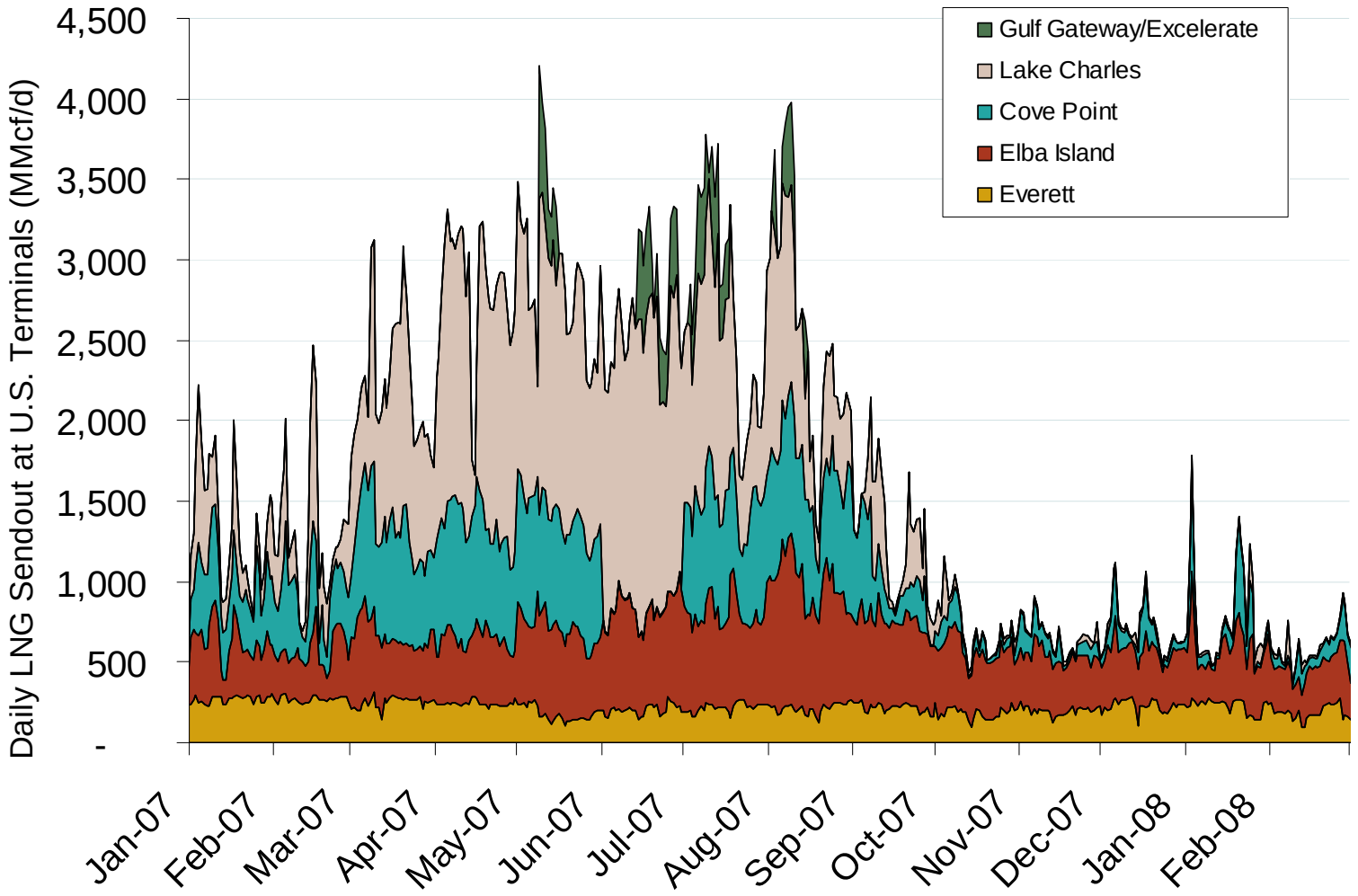
Monthly Gas Imports at Existing U.S. LNG Facilities



Source: Derived from *EIA* data.

Updated March 7, 2008

Daily Gas Sendout from Existing U.S. LNG Facilities



Source: Derived from *Bentek* data. Excludes Everett LNG delivered via truck and consumed by the Mystic plant.

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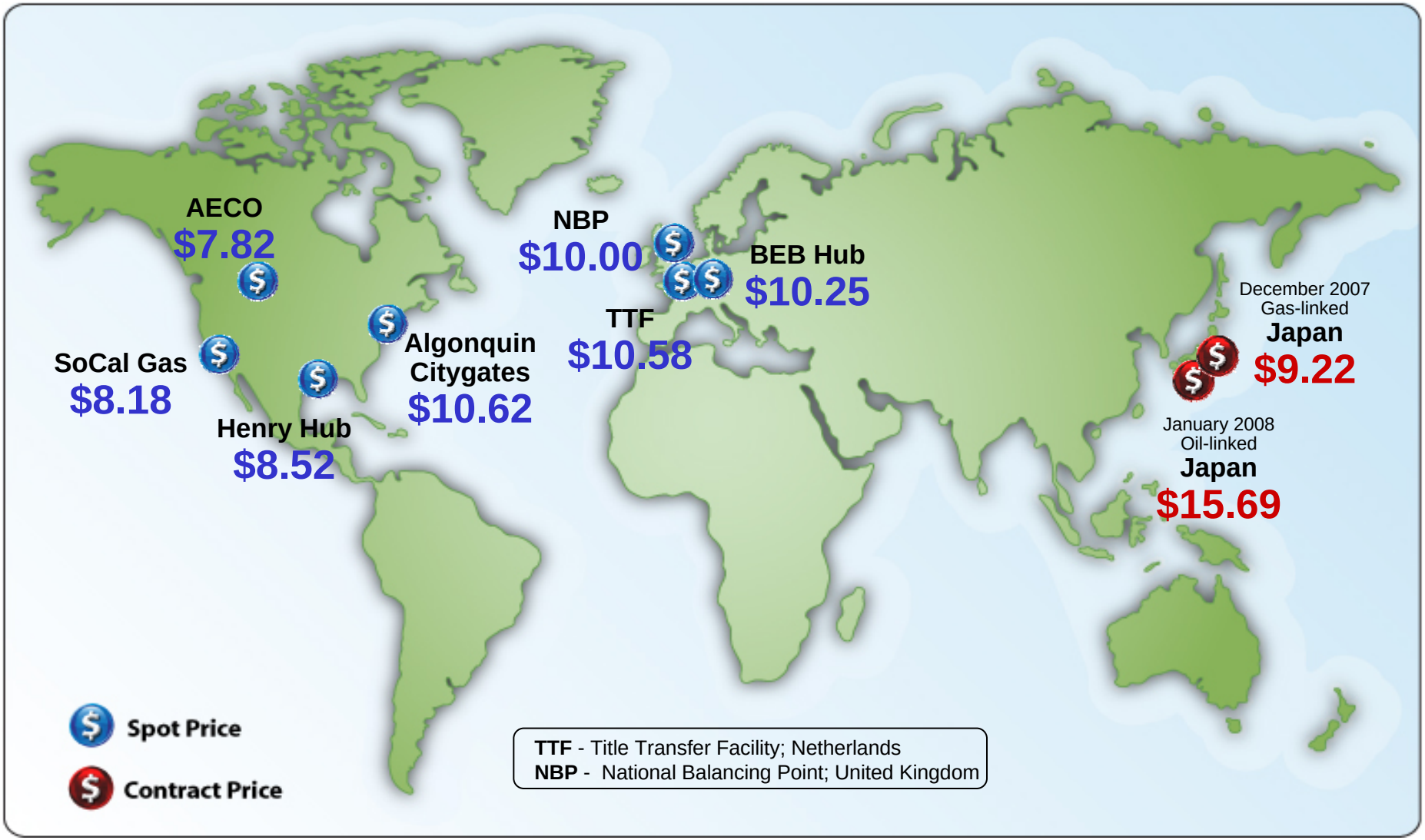
World Natural Gas Prices for February 2008

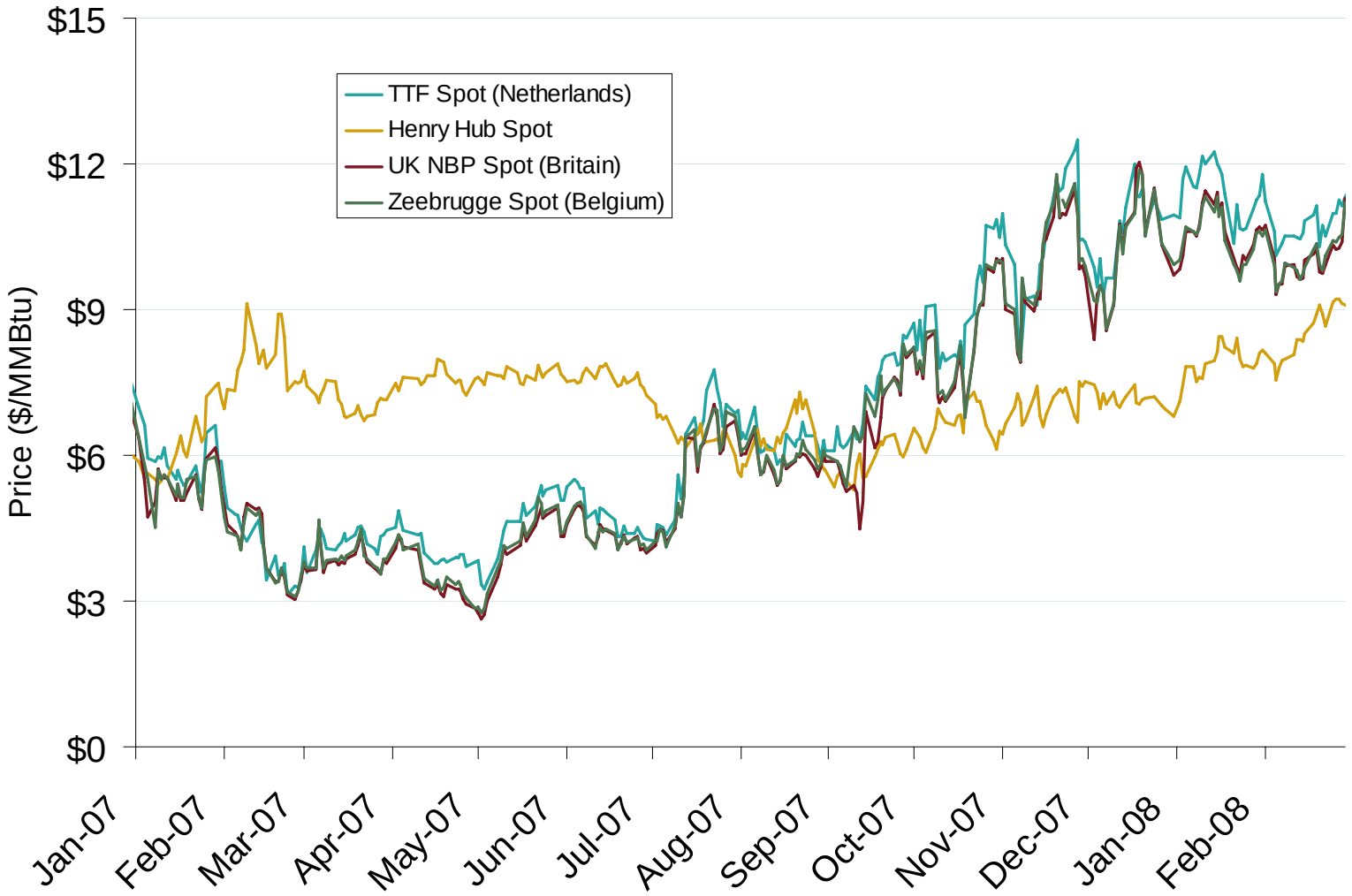


Source: Derived from *Bloomberg, ICE, ICAP and LNG Japan Corp.* data. Spot Price is a monthly average of daily prices. Contract Price is a monthly price. All prices in $US/MMBtu.

Updated March 7, 2008

3017

European and U.S. Spot Natural Gas Prices

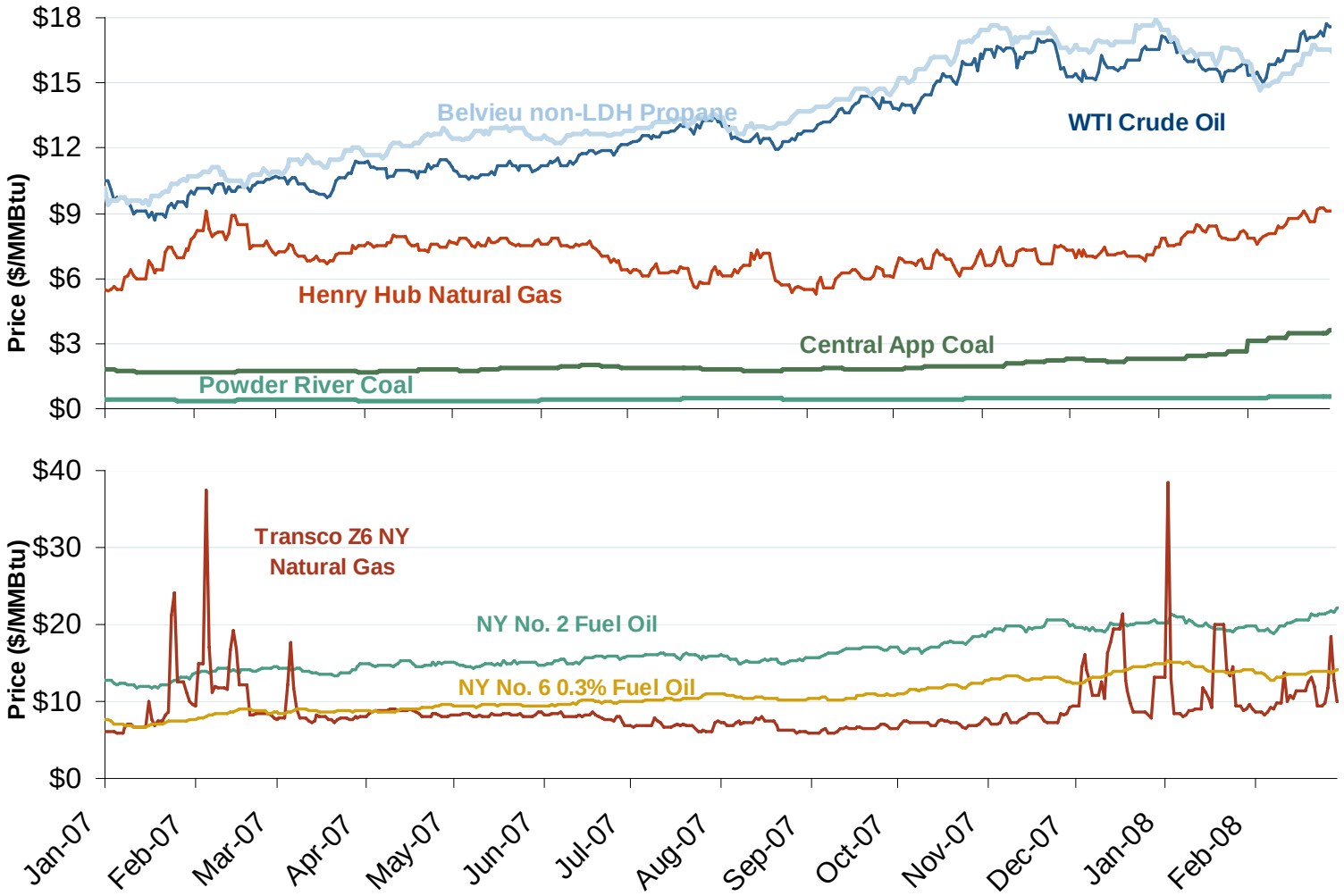


Source: Derived from *Bloomberg* and *ICE* data.

Updated March 7, 2008

3008

Oil, Coal, Natural Gas and Propane Daily Spot Prices



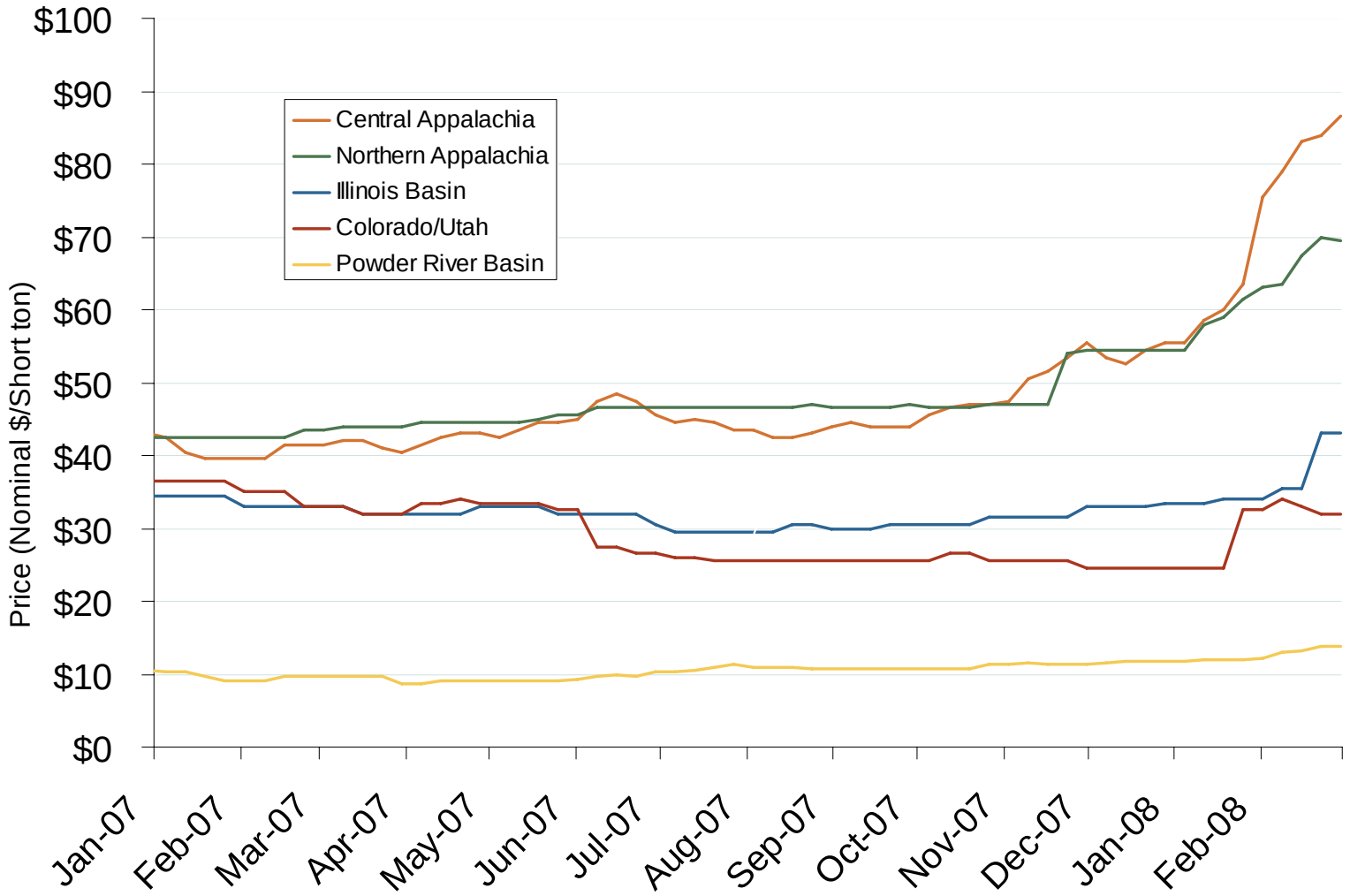
Source: Derived from *ICE* and *Bloomberg* data.

Note: Coal prices are quoted in $/ton. Conversion factors to $/MMBtu are based on contract specifications of 12,000 btus/pound for Central Appalachian coal and 8800 btus/pound for Powder River Basin coal.

Updated March 7, 2008

3001

Regional Coal Spot Prices



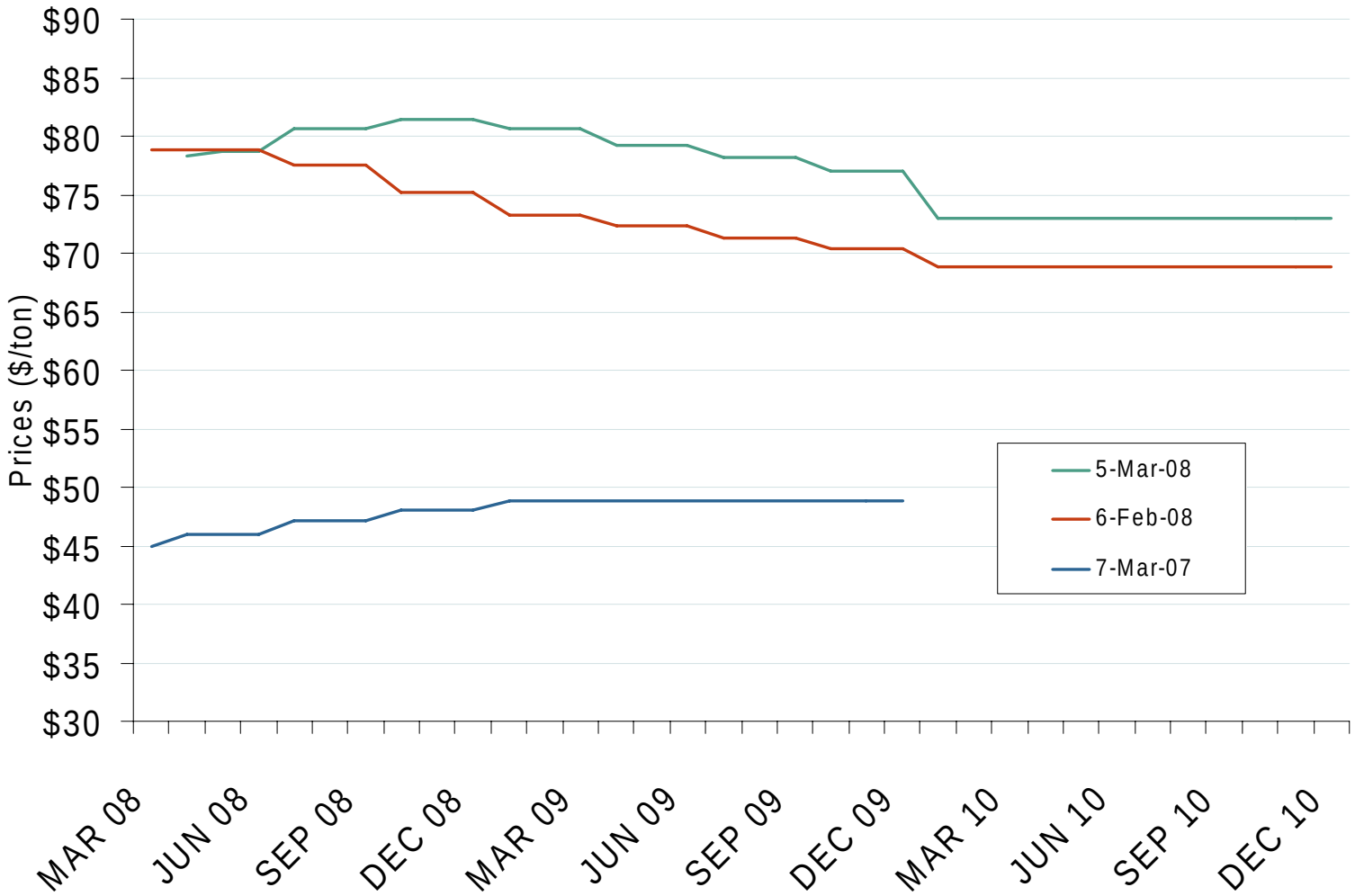
Note: Does not reflect the delivered price of coal; excludes incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.

Updated March 7, 2008

3002

Central Appalachian Coal Futures Prices

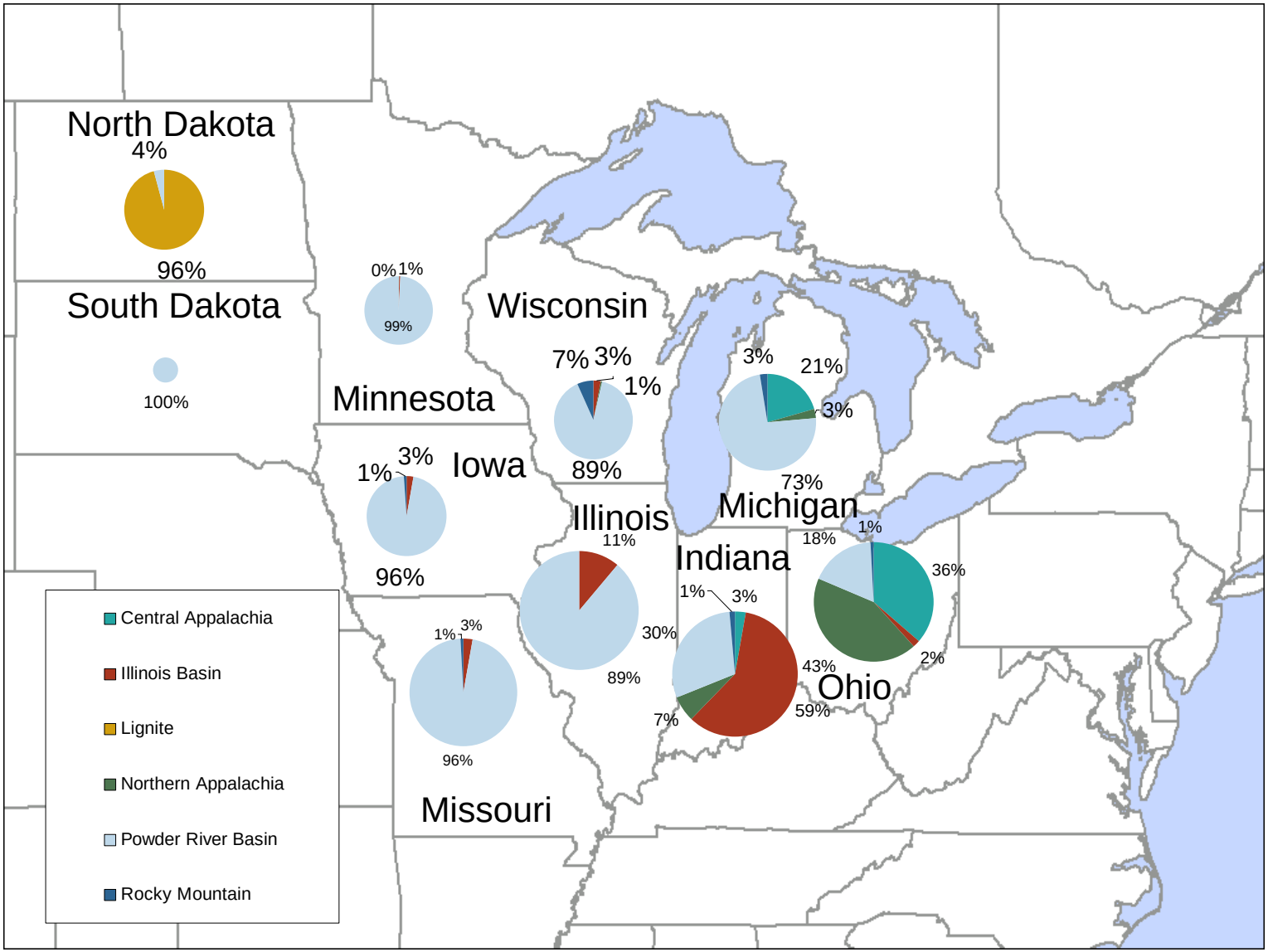


Source: Derived from *Nymex* data.

Updated March 7, 2008

3003

2007 Coal Shipment Origins by Supply Basin



Source: Derived from *FERC* and *EIA* data.

Created March 7, 2007

1161

SO_2 and NO_x Allowance Spot Prices

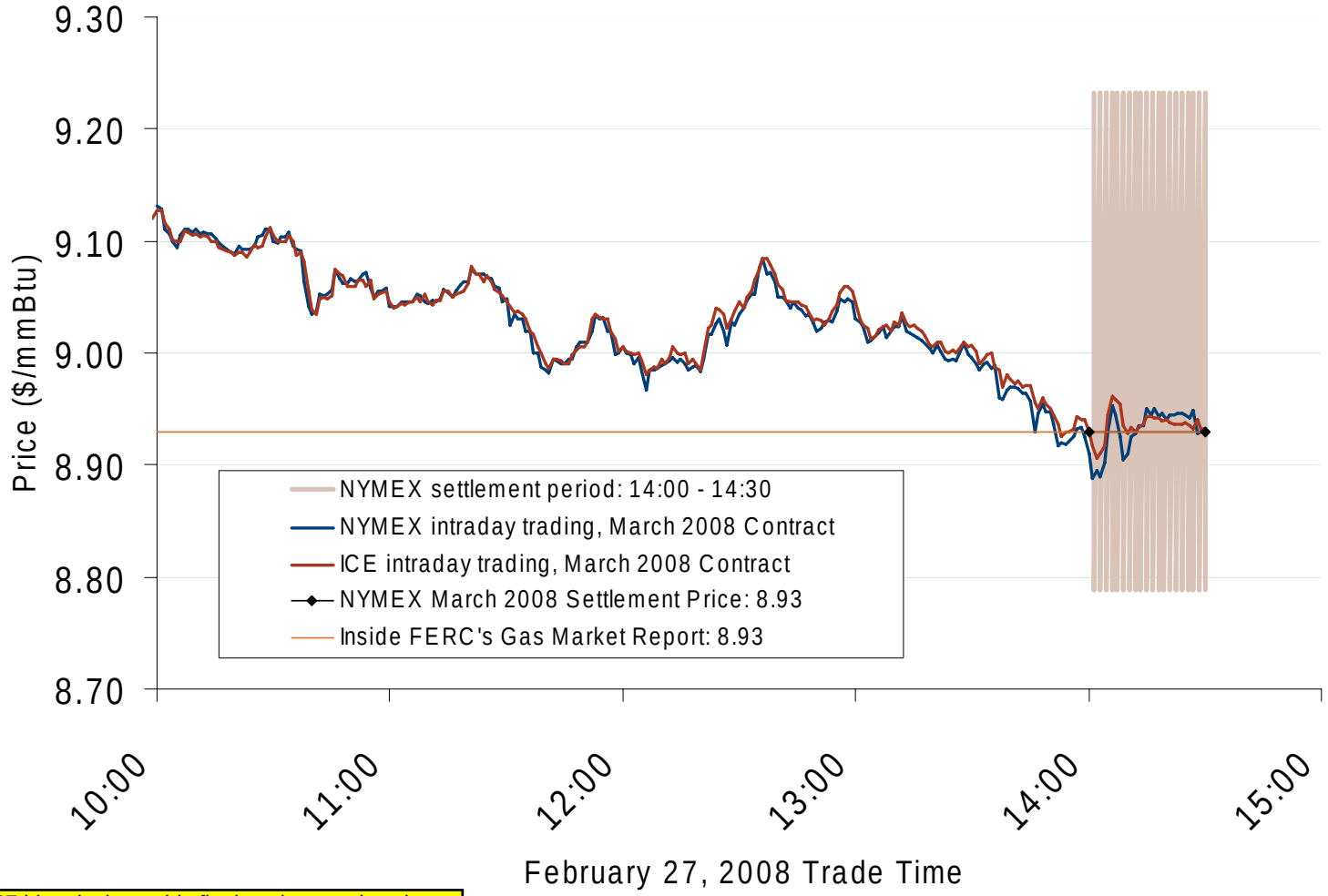
Source: Derived from *Cantor Fitzgerald* data.

See notes on following pages.

Updated March 7, 2008

3004

March 2008
NYMEX and ICE Contract Final Settlement Day



See 2003-2007 historical monthly final settlement day charts.

Source: Derived from *Nymex and ICE* data.

Updated March 7, 2008

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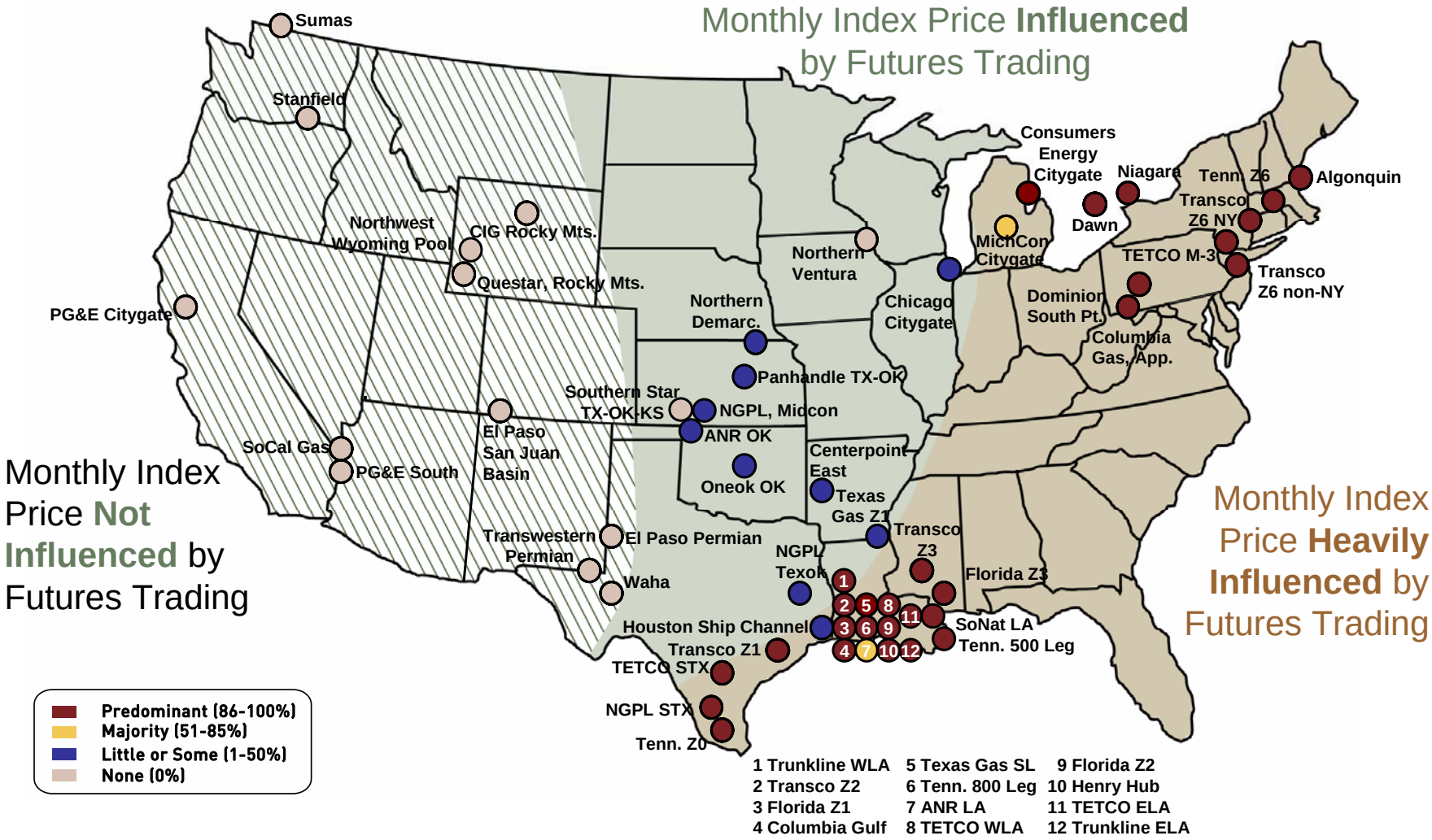
Use of Physical Basis in Natural Gas Price Indices at Major Trading Points, 2007



Source: Derived from *Platts* data for January through October 2007 indices.

Updated October 11, 2007

2167

Renewable Energy Portfolio Standards (RPS)

WA: 15% by 2020

OR: 25% by 2025; small utilities 10%

CA: 20% by 2010; goal of 33% by 2020

NV: 20% by 2015; solar 5% per year

UT: proposed goal: 20% by 2025

CO: 20% by 2020; includes 4% solar

AZ: 15% by 2025; includes 30% DG

NM: 20% by 2020; co-ops 10%

HI: 20% by 2020, *and* goal of 70% RE by 2030

MT: 15% by 2015

ND: 10% by 2015

KS: Goal: 20% wind by 2020

OK: Studying an RPS

TX: 5,880 MW by 2015

MN: 25% by 2025; (Xcel 30% by 2020)

IA: 1,105 MW by 2011*

MO:11% by 2020

MI: 10% by 2015

WI: 10% by 2015

IL: 25% by 2025

IN: 10% by 2018

OH: 25% from advanced energy by 2025

ME: 30% by 2000; *and* 10% *new* by 2017

NH: 23.8% in 2025

VT: load growth to 10%, 2007-12; *proposed* goal of 25% by 2025

MA: 4% by 2009, then 1% annual increase

RI: 16% by 2019

CT:27% by 2020

NY: 24% by 2013

PA: 18% by 2020

NJ: 22.5% by 2020; includes 2% solar

MD: 9.5% in 2022; includes 2% solar

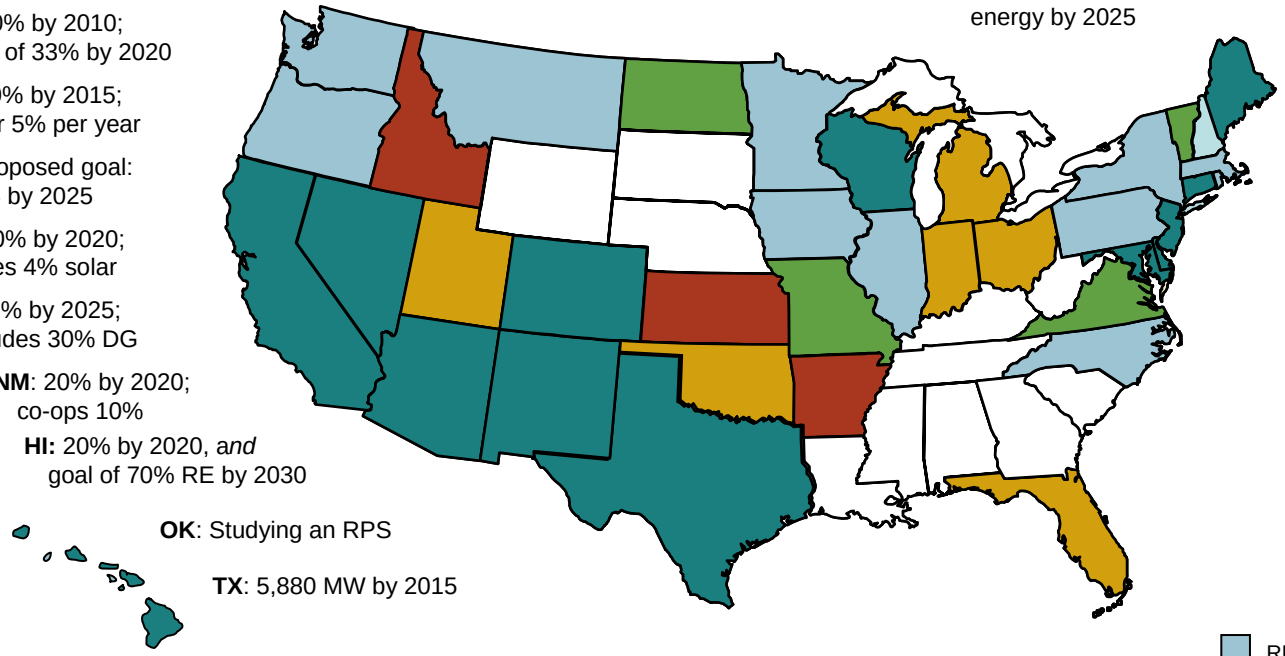
DC: 11% by 2022

DE: 20% by 2019, includes 2% solar

VA: 12% by 2022

NC: 12.5% by 2021

FL: 20% by 2020



- RPS
- Strengthened/ amended RPS
- Voluntary standards or goals
- Proposed RPS or studying RPS
- Other renewable energy goal

Notes: Alaska has no RPS; DG is distributed generation; * Iowa has a goal of 1,000 MW of wind by 2010
Sources: Derived from data in: EEI, EIA, LBNL, PUCs, State legislative tracking services, Database of State Incentives for Renewables and Efficiency, and the Union of Concerned Scientists.

Updated March 7, 2008

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Renewable Energy Portfolio Standards

- A Renewable Portfolio Standard (RPS) requires a percent of energy sales or installed capacity to come from renewable resources.
- 26 states and D.C. have renewable energy standards.
- Four states have enacted renewable goals without financial penalties.
- 54% of U.S. load is located in states with a renewable energy purchase obligation; an additional 6% is in states with a renewable energy goal.
- Nine states and D.C. have solar set-asides as part of their RPS; five offer extra credit to solar or distributed generation. New Jersey was the first state to create a separate solar credit tracking program (SREC). Maryland adopted a similar program in July 2007 modeled on New Jersey's.
- States revisit earlier RPS goals:
  - Arizona's governor asked the legislature to extend the RPS to cover all utilities.
  - A "green bill" in Massachusetts would increase the use of renewable energy and add energy efficiency.
  - The Maryland Energy Administration called for increasing the RPS and compliance payment; it also called for energy efficiency and advanced metering measures.
  - Iowa added a goal of 1,000 MW of installed wind by 2010, as its utilities long ago met their RPS requirements.
- Eleven states already include energy efficiency in their RPS or renewable goals.
- States which are considering an RPS or other renewable energy goals include:
  - Chambers in Michigan, Ohio and Vermont passed RPS legislation this session which include energy efficiency. Conference committees will try to reconcile details.
  - Indiana re-introduced an RPS from last session; in January, it failed in House Committee. The Senate is considering a separate bill.
  - Kansas' Governor Sibelius set a goal for wind to be 20% of generation by 2020.
  - In January, Oklahoma held a technical conference and issued a notice of inquiry on a possible RPS.
  - Idaho's Draft 2007 Energy Plan included a provision for utilities to give priority to demand response, energy efficiency, and in-state renewable energy over other resources.

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Energy Efficiency Resource Standards (EERS)

ID: evaluating DR, EE, and RE as priority resources

MN: reduce fossil fuel use 15% by 2015 through EE, RE

MI: proposed EERS -- incremental savings increasing to 2012 for E&G

ME: EE in 10% new by 2017 RPS goal as 2nd priority

MT: Governor's initiative - 20% reduction by 2020

IA: mandated study

WI: RPS requires utility EE programs

VT goal: EE & RE to meet 2007-12 growth

WA: must pursue all cost-effective, conservation

IL: use cost-effective EE, DR to reduce energy delivery 2% by 2015

MA: EE & RE to meet 2007-12 growth

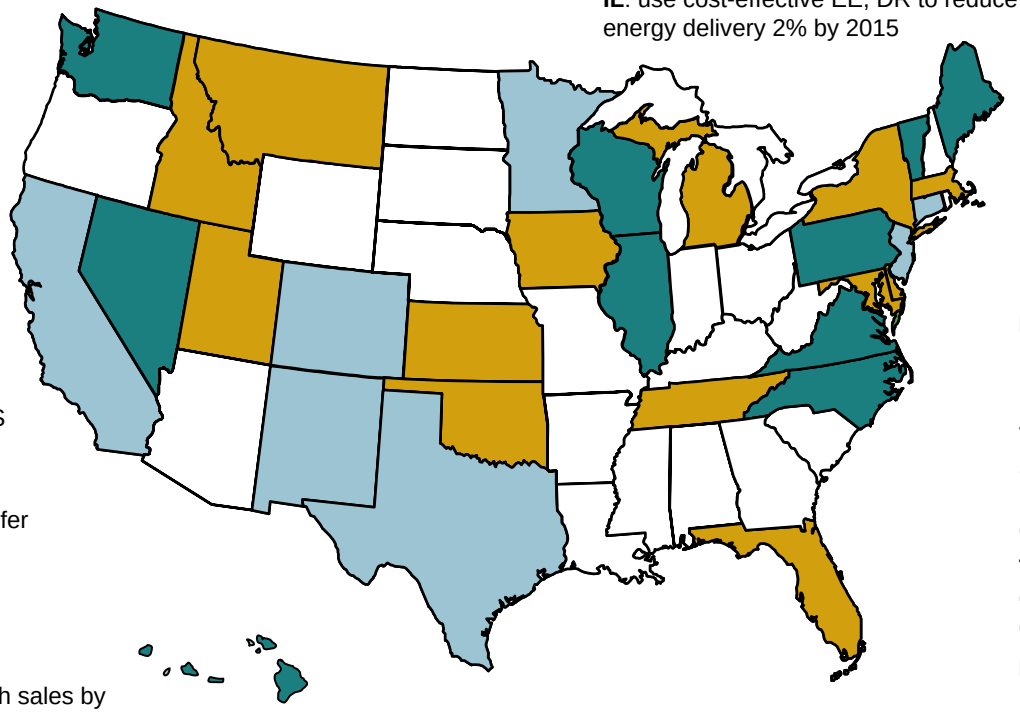
CA: IOUs reduce MW 10%, peak demand (MWh) 12% by 2013; munis 10% by 2017

NY: goal - reduce 15% of forecast energy use by 2015

NV: up to 25% by 2015; part of RPS

CT: 4% savings by 2010, and a Tier III RPS resource

UT: goal to increase EE 20% by 2015



PA: EE is a Tier II resource:10% 2020

CO: save 40 MW and 100 GWh annually to 2013*

NJ: 20% load reduction by 2020

MD: 15% reduction by 2015

NM: Public utilities must use EE and DR to save 10% of 2005 retail kWh by 2020; also in *separate* RPS

DE: created Sustainable Energy Utility to promote EE , conservation

VA: voluntary: reduce 10% of 2006 sales by 2022 with EE, DR

KS: studying for E&G utilities

NC: EE to meet up to 25% of RPS to 2011; later to 40%

OK: implement DSM and EE to defer or avoid new plant construction* *

TVA (TN): encouraging customers to save 1200 MW per day 2008 - 2012

TX: 10% of load growth, beyond 2004, based on prior 5 years

FL: PUC directed to study EE

HI: 20% of MWh sales by 2020; up to 50% of RPS

- Existing EERS by regulation or law (separate from RPS)
- Energy efficiency part of an RPS rule or goal
- Voluntary standards or goals
- Energy efficiency goal proposed / being studied

Abbreviations: DR - demand response; DSM - demand side management; EE - energy efficiency; E&G: electric and gas utilities; RPS: Renewable Portfolio Standard

* Colorado's standard applies to Public Service of Colorado

** Oklahoma's applies to PS of Oklahoma

Sources: ACEEE, EPA, Regulatory Assistance Project, Union of Concerned Scientists, State legislative sites

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Energy Efficiency Resource Standards (EERS)

- An energy efficiency resource - or portfolio - standard (EERS) aims to reduce or flatten electric load growth through energy efficiency measures
- Goals may specify reductions in energy (MWh), demand (MW), or both
- 19 states have energy efficiency standards or goals; ten of those include energy efficiency as part of a renewable portfolio standard (RPS) or goal.
  - Five states added an EERS in 2007: Minnesota, Virginia, North Carolina, Connecticut, and Illinois.
  - New Mexico enacted an EERS in February 2008; this is in addition to the energy efficiency already in an RPS.
- States that proposed, are studying, or mandated an EERS design include: Florida, Maryland, Massachusetts, Michigan, Ohio, New Jersey, New York, and Vermont.
- New Mexico's "Utility Customer Load Management" is among the acts which put energy efficiency, conservation, and load management or demand-side resources explicitly on a par with generation resources. They are eligible for cost recovery and form a basis for just and reasonable rates. Many states added performance-based financial incentives as well as cost-recovery.
- Delaware created a "Sustainable Energy Utility" to use a market-based approach to address energy efficiency, conservation, and renewable energy.
- States can encourage participation through public benefit funds or by decoupling utilities' revenues from power sales. Not all use financial penalties for non-compliance.

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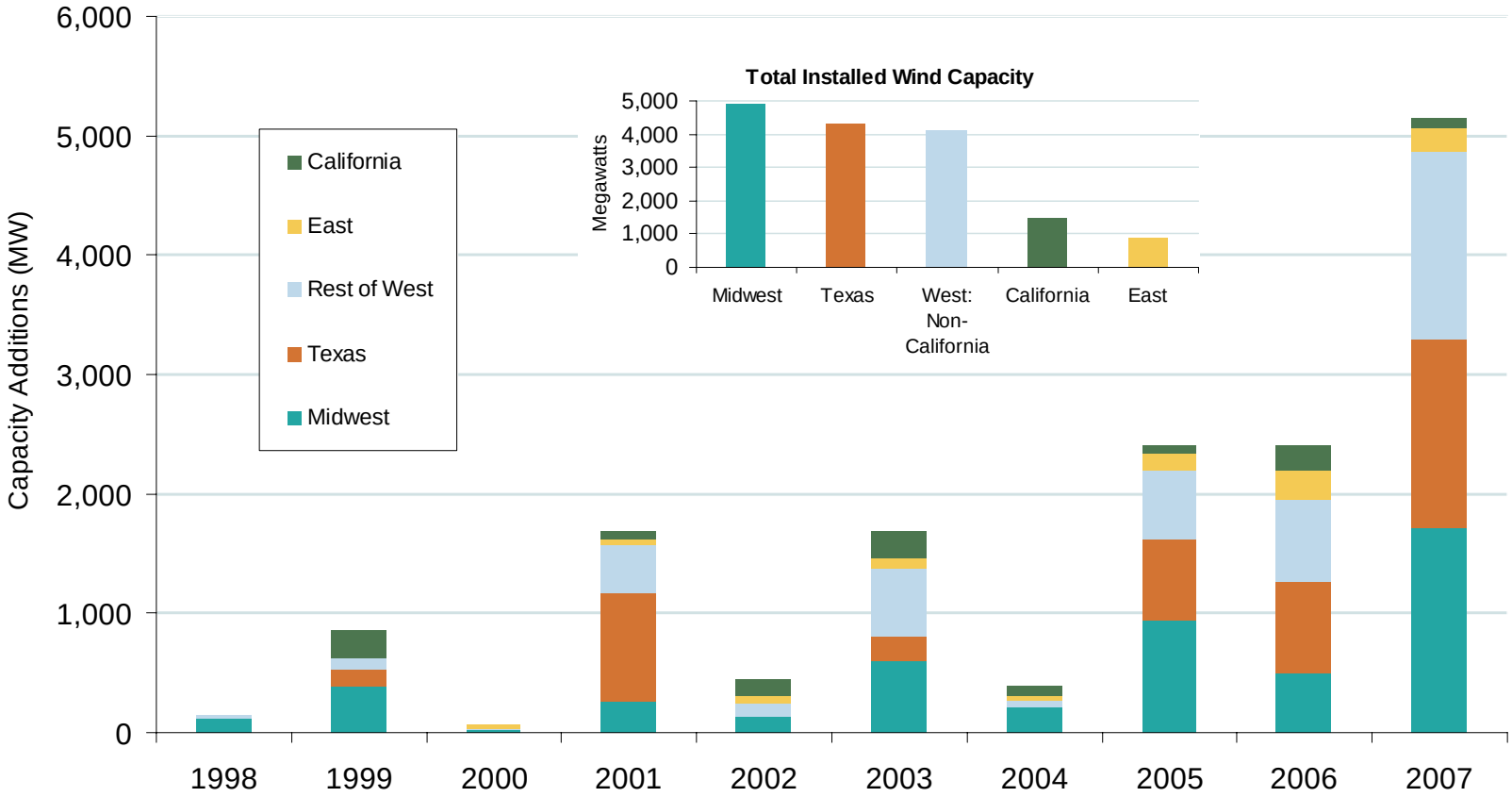
Growth of U.S. Installed Wind Capacity (MW)



Midwest includes: Il, IA, KS, MI, MN, MS, NE, ND, OH, OK, SD, WI
East includes: ME, MA, NH, NJ, NY, PA, RI, TN, VT, WV

Source: American Wind Energy Association (AWEA)

Updated March 16, 2008

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2007 Review of Wind Generation

- Installed wind capacity grew 5,244 MW from 11,603 MW in 2006 to 16,818 MW in 2007, a 45% increase.
- More new wind capacity was added in 2007 than any prior year:.
- Just over half of new capacity – 2,704 MW – was installed in states with the highest wind potential. 59 percent of that – 1,588 MW – was in Texas.
- Installed capacity grew 150% from 2004 to 2007, while:
  - the number of states (including D.C.) with a renewable portfolio standard grew from 21 to 27, and
  - the wind production tax credit did not lapse.
- The top five states by capacity added in 2007 were: Texas (1,618 MW), Colorado (776), Illinois (592), Oregon (447), and Minnesota (405). Texas moved into 1st place in installed wind capacity in 2006, passing long-time leader California.
- The top 10 states by cumulative installed capacity have 14,366 MW of wind, or 85% of U.S. capacity. Nine of them had a Renewable Portfolio Standard (RPS) in 2007.
- The rapid growth of wind generating capacity has led to a backlog in many interconnection queues. The Commission held a Technical Conference on December 11, 2007 (AD08-2-000) to re-examine the Large Generator Interconnection Rule. Many ISO/RTOs reported that the queuing procedures specified by Order 2003 impede the timely interconnection of wind resources.

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